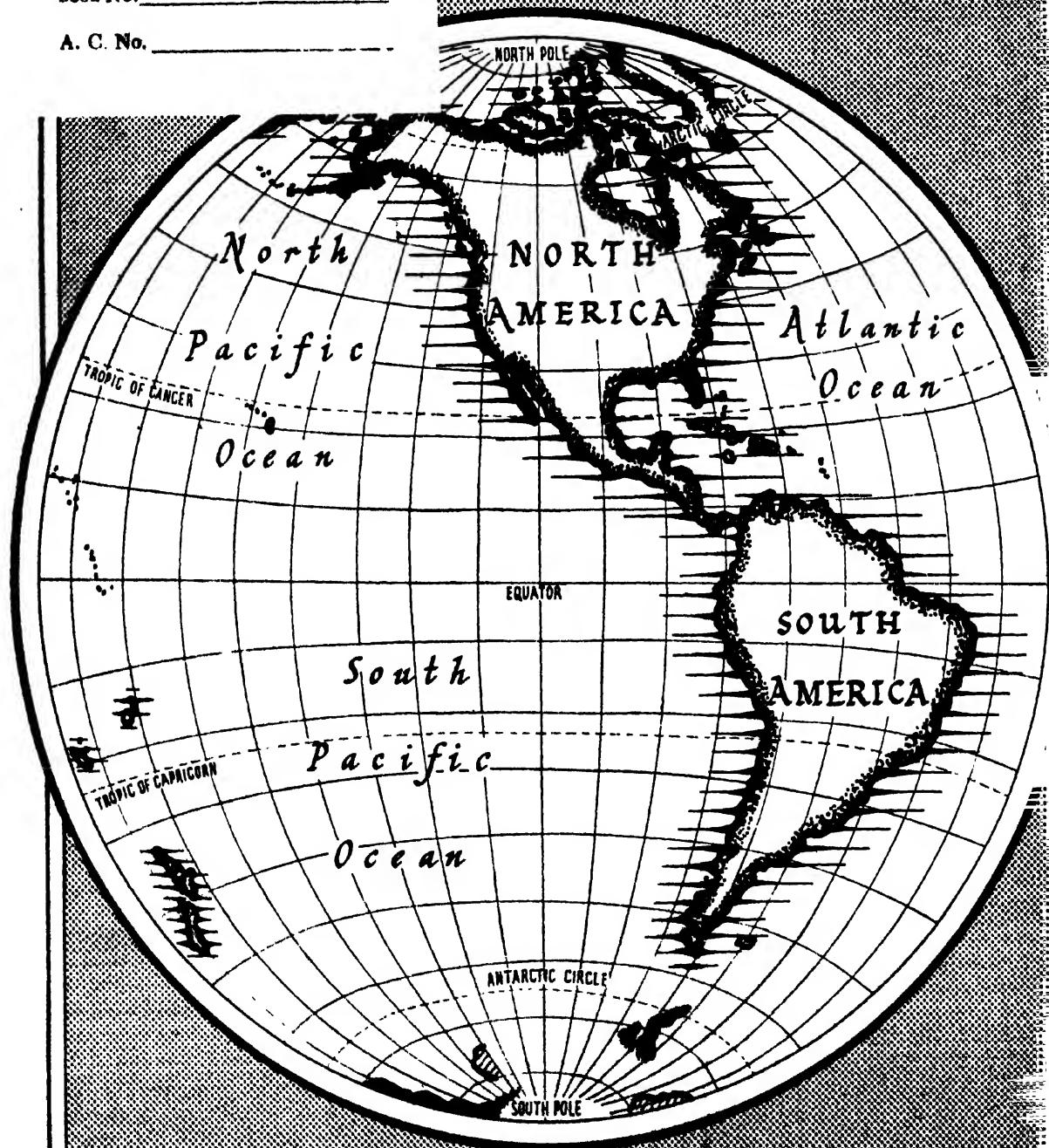


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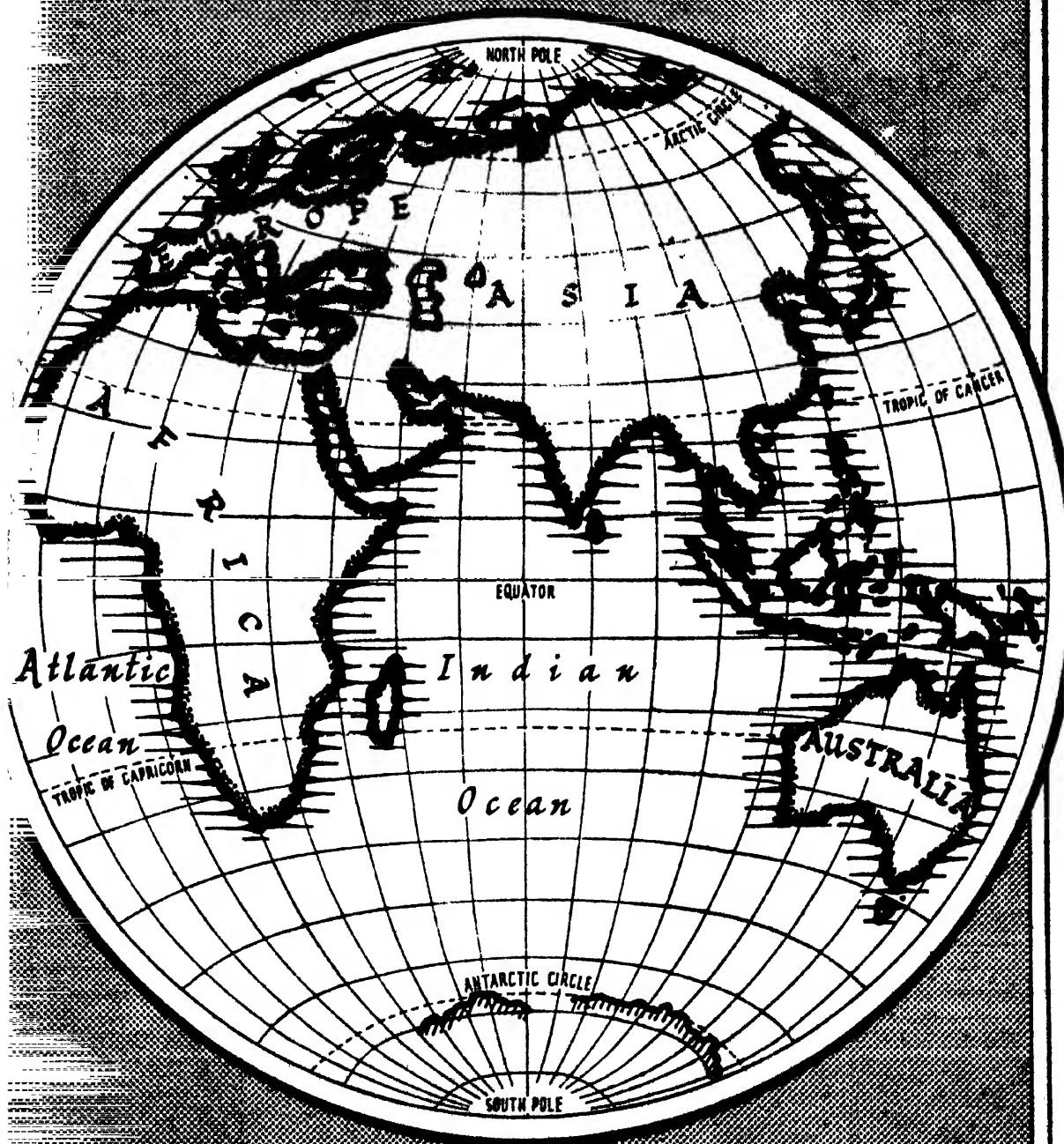
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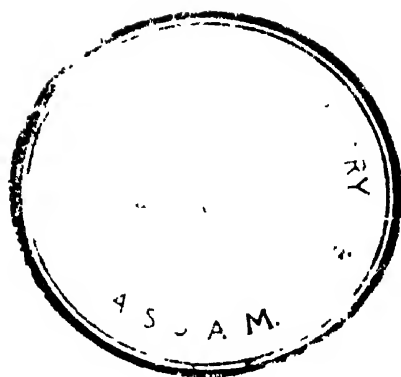
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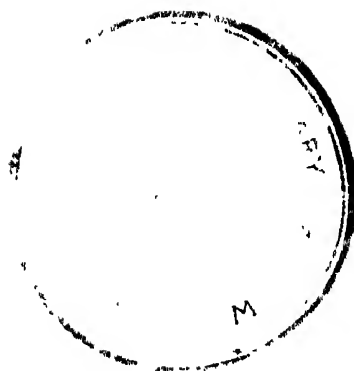


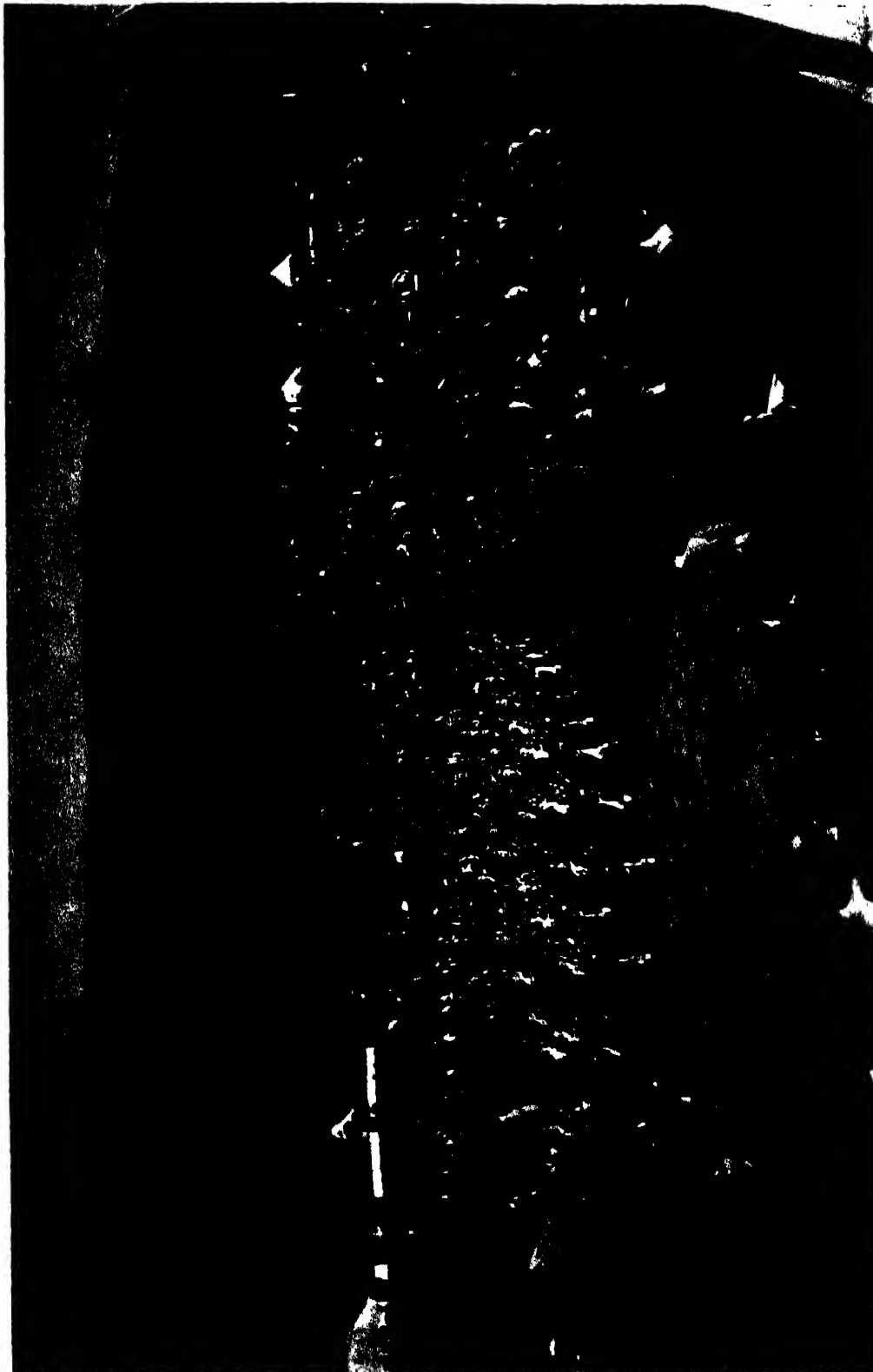


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GEOGRAPHY AND MAN





THE BRAEMAR GATHERING

The colourful array of papers is the traditional opening of this ancient Gathering for Highland Games, held annually near Braemar, the far-north village and capital of the Deeside Highlands of Aberdeenshire, Scotland

Photo 13

GEOGRAPHY AND MAN

Please handle the book carefully
A PRACTICAL SURVEY OF THE LIFE AND
WORK OF MAN IN RELATION TO
HIS NATURAL ENVIRONMENT

Not to be lent out

Advisory Editor

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ASSISTED BY SEVENTY-FIVE
EMINENT AUTHORITIES

VOLUME II

THE BRITISH ISLES : ASIA : AFRICA

SECOND EDITION



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PART THREE

THE BRITISH ISLES

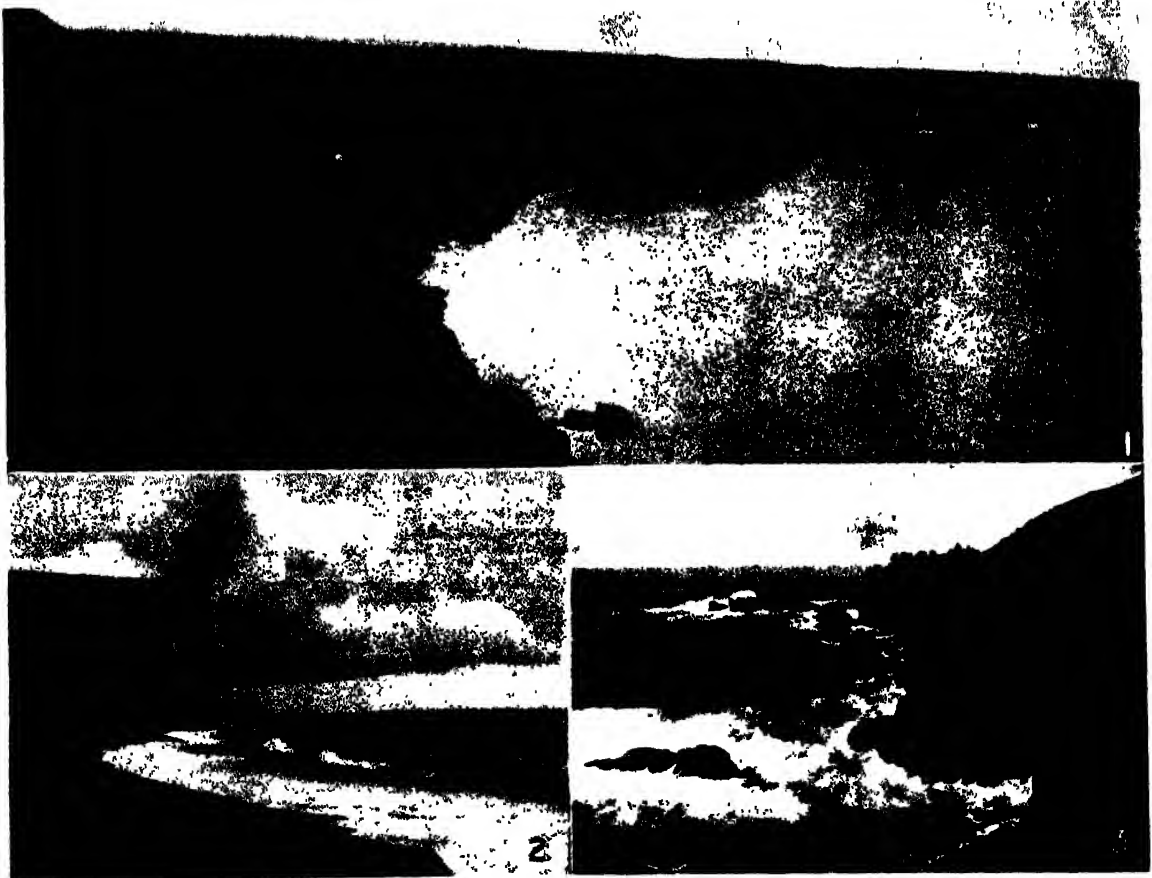
CHAPTER ONE

THE FACE OF BRITAIN

MANY influences have combined to make Great Britain a country of infinite variety, varied in its rocks, its soils, its scenery, and above all in the character of the peoples who inhabit it. There is no other area, certainly in Europe, and probably in all the world, which shows such a great variety in so small an area.

The nature of the underlying rocks has determined the state of the land and the characteristic scenery associated with each type of country. The older rocks of the north-west have given to all Scotland and much of north-

western England a relatively barren aspect which is reflected in the life of the people who live among the fells and the mountains. The more recent rocks of the south-eastern half of England have through their greater softness yielded to denudation and been fashioned into hundreds of river valleys which are all the more fertile because the climate is equable. Climate, too, as well as soil, determines the vegetation which lends Britain much of its scenic character -- the pine forests of Scotland, the deciduous oaks, ashes, hornbeams and chestnuts of



COASTAL SCENES

1. The Devon coast near Slapton, photographed from Start Point Lighthouse. 2. The chalk cliffs of the south-east, showing the Cuckmere Haven and the first of the Seven Sisters, Sussex. 3. The granite cliffs of Land's End

Photos: A. L. Lumsford, F. Read; British Railways



A COMMON OF THE MIDLAND COUNTIES
Photo: F. Read

England, the heather of the lower moors, the rank grass and mossy growths of the higher ground and the abundance of hedgerow flowers and bushes which have given English lanes more than a local significance.

Finally, man himself has largely modified the face of the country; for most of England is in a sense man-made, a kind of garden on a vast scale in which the trim chessboard pattern of the hedgerows and the alternation between ploughed field and pastureland are no less integral parts of the whole picture than the gentle rise and fall of the contours.

Everything which has spoilt the natural beauty of the scenery is man-made, from the slag heaps at the pit heads of Staffordshire and Durham and the blazing furnaces of the Sheffield district (which are significant, also, because they bespeak the wealth of the land) to great urban areas like London, Manchester and Birmingham, which owe their origin to their place in commerce and their position in relation to the mineral wealth of the country. To this must be added the *quasi* urban development which has spread along the main roads in the immediate vicinity of the chief industrial areas after a fashion which it is surprising that

any legislature will tolerate. Great Britain, then, is the perfect cameo of world geography in which all the factors, physical and economic, which are the raw material of our interest can be observed in miniature.

The Relief of the Land. A contour map of Great Britain shows a general slope from north-west to south-east, all the highest land being massed in the Highlands of Scotland, in the mountains of Cumberland and Westmorland, in the Pennine Chain and in Wales. A line drawn from the Estuary of the Severn to that of the Humber roughly marks the division. North and west of that line there are only two significant belts of lowlands—the flatter country of the Welsh borderland and the Lowlands of Scotland, embracing the area between the Clyde and Forth. There is evidence to show that the land to the north and west of this line was in geologic time part of a continent which extended farther to the north-west, embracing what are now the Hebrides and the other groups of islands of western Scotland.

All that lies to the south-east, however, is



THE CHANGING COASTLINE

The broken cliffs of Beachy Head, battered by sea and rain, showing the lighthouse on the long line of low rocks which extends out to sea from the headland

Photo: P. J. Green



THE SOUTHERN UPLANDS OF SCOTLAND
Edineston Valley from Hamilton Hill, Peebles, showing the Pentland Hills in the distance
Photo: Scottish Travel Association

composed of recent rocks built up by deposits under the sea—clays, chalks, limestones and sandstones. At an intermediate time southern England formed part of the continent of Europe, the English Channel and the southern North Sea being much later developments, themselves arising, like the valleys of southern England, from repeated denudation. The process still continues; every year the sea encroaches farther on the land, tearing away the chalk cliffs of Kent and Sussex and the low cliffs of the east coast.

There is still further evidence in the fact that most of the types of country of the south-east half of England have their counterpart facing them immediately on the other side of the English Channel or the North Sea; thus the Fens have their counterpart in the dyke-drained lowlands of Holland; the line of the chalk cliffs which ends in the South Foreland is continued by Cape Gris Nez into northern France, whilst the cliffs of the south-west have their counterpart in Brittany. It is suggested that ultimately denudation will continue in the valley of the Upper Thames until a way has been cut to the Severn, thus rendering the extreme south of England an island, as has already been done artificially by the Thames-Severn Canal.

Although the whole of southern and eastern England is by comparison with the rest of Britain called the Plain, very little is entirely flat; rather it consists of a series of symmetrical ranges of hills which lend it at once its diversity

of scenery, its variety of colouring and its range of productivity.

Geology and Scenery. The chalk hills are the backbone of southern England. The chalk ridges define the principal watersheds in the same way as the Pennine Chain in northern England. There is a central upland plateau of chalk in Wiltshire and Berkshire, comprising Salisbury Plain and the surrounding districts. From this radiate a number of individual chalk ridges. One continues in a line broken only by numerous small river valleys through Surrey and Kent to end at the South Foreland; another extends through Hampshire to form the South Downs of Sussex and ends at Beachy Head; a third is alternately called the Marlborough Downs, the Berkshire Downs, and, after it has crossed the Thames at the Goring Gap, the Chiltern Hills. This range is maintained through south Bedfordshire, along the borders of Essex and Cambridgeshire, and into East Anglia, finally reaching the Wash near Hunstanton and, after crossing the Wash, becoming the Wolds of Lincolnshire, and, ultimately, the chalk hills of Yorkshire, which end at Flamborough Head.

The Chalk Ridges. Westward from Salisbury Plain two parallel ridges extend, one through south Dorset, the other through north Dorset to the Devonshire boundary where it ends in the most westerly chalk cliff of England near Lyme Regis. In the south-eastern counties, Surrey, Kent and Sussex, there are lines of sandstone hills parallel with the chalk downs,



THE HOME COUNTIES

Above: Pine woods and leather commons of the Greensand Hills at Frilay Street, near Dorking, Surrey. *Below:* Wooded parklands of the clay at Pyrgo Park, near Havering, Essex.

Photos: F. P. Davies

and narrow belts of clay inside the sandstone hills and also between them and the chalk. The North Downs and the East Anglian Heights bound the broader basin of the London clay, which covers the whole of Essex, and extends into Suffolk as well as forming the sub-soil of the Thames Valley. Another range of low sandstone hills is found parallel with and to the north of the Chiltern Hills, including the well-wooded district of the Woburn Sands.

The other important range of hills of southern England consists of the limestone ridge which extends from Portland Bill in the south, northward as the Cotswold Hills, then by Edgehill and through Northamptonshire, ultimately continuing parallel with the chalk along the western edge of Lincolnshire and crossing the Humber to finish at the sea as the North York Moors.

This orderly arrangement of hills from east to west is the secret of southern England's diversity and, at the same time, of the similarity of the districts in the extreme south and some

farther north. The connection, for instance, between the North York Moors and the Cotswold Hills and that between the Yorkshire Wolds and the Berkshire Downs are connections which otherwise would have no meaning. Yet the similarity of contour and in some cases of vegetation is clearly marked.

Reclaimed Land. The only part of the south-east which is entirely level is that part which has been reclaimed from the sea. The Fens of Lincolnshire and Cambridgeshire, the Romney Marshes in Kent, the northern shore of the Thames Estuary and the Pevensey Levels are the most striking examples. To these must be added the Midland Plain, which, though it is never entirely flat, has few notable elevations, and stands in contrast with the hills to the south-east and the moors to the north-west. A few other districts such as the Weald of Kent and the Somerset Plain are relatively level and, like the areas previously mentioned, have only been made fit for intensive habitation in recent centuries. In these cases the lowlands were swampy and choked in medieval times by dense undergrowth and primeval forest.

The Land of the Older Rocks. We must now pass to the districts where older rocks predominate, rocks which have been twisted and contorted into their present shape by repeated spasms of the Earth's surface through an incalculable period of time. It is strange that the oldest rocks of all are found in Charnwood Forest, which stand out boldly in the midst of much more recent deposits. Here the more recent deposits formed above the older rocks have been completely denuded, exposing



A MOORLAND FARMHOUSE

• A prosperous farmstead on the borders of Exmoor, Somerset

Photo: F. Rea



VILLAGE ENGLAND

1. A gipsy caravan at Middleton-on-the-Wolds, Yorkshire. 2. Thatched cottages at East Garston, typical of the villages in the Vale of Evesham.
3. Characteristic timber-framed houses near Warwick. 4. Lower Slaughter, a stone-built village of the Cotswold country

Photos: Photopress, F. Read, H. Courtney Bryson, British Railways

the earlier layers, whilst these in turn are now in process of renewed denudation.

The south-west counties form a generally hilly district in which the red sandstone of the South Hams of Devonshire is the most conspicuous feature and in which there is otherwise a marked geologic resemblance to southern Wales. It might be expected, therefore, that some resemblance would appear between the scenery of Cornwall and that of Pembrokeshire, as is in fact the case. Dartmoor and Bodmin Moor are two granite outcrops in a series which Land's End and the Scilly Islands continue in a straight line. Wales also forms a homogeneous unity. Although the highest ground is mostly round Snowdon and Plynlimon in northern Wales, the whole country is distinctly mountainous except in the extreme south-west, where Pembrokeshire is not unjustly named "a little England beyond Wales."

The Pennine Chain. The rest of the uplands of England and Wales are part of a single system—the Pennine Chain, which is rightly called the "Great Divide" of England, in that it is its principal watershed and divides with unerring precision the rivers flowing east from those flowing west. The Peak in Derbyshire and the Greater Whernside in Yorkshire are two of the highest points in its more southerly part, but the height of the ridge summit is rarely less than 2000 feet. It throws off one long spur to the west—the Cumbrian Mountains—forming the lake-district of Cumberland and Westmorland, and another lesser spur eastward—the Cheviot Hills—which extends to within sight of the North Sea. The main chain then crosses the border and ends in the series of detached hill systems which form the Southern Uplands of Scotland.

The midland valley of Scotland, in which

lie Edinburgh and Glasgow, begins without clear definition on the south, where the Southern Uplands degenerate into mere foothills. On its northern side, by contrast, the valley is bounded by the abrupt face of the Ochil Hills and the Trossachs. The Highlands themselves, which continue without interruption to the extreme north of Scotland, occupy its whole area except for a narrow coastal plain along the east, which latter, incidentally, is one of the most fertile parts of Britain. Many sea lochs and deep cleft valleys intersect the Grampians, but only one—Glen More—reaches from sea to sea. Here, between Inverness and Fort William (the Caledonian Canal), there is a clean cut division between the northern and southern Highlands, and consequently the main line of communication from east to west. The rivers are mostly swift and short and completely unsuitable for navigation. There are a few well-defined passes from north to south (notably the Pass of Killiecrankie) which are followed by the main roads and the railways, which often run side by side for miles. In the extreme west direct communications are extremely poor, the contours of the land being often unsuitable for the construction of railways, and roads being narrow and steep and interrupted by sea lochs which are crossed by ferry. In the eastern coastal plain a complete contrast is evident, communication by road and rail alike being excellent.

Climate and Fertility. Britain's climate is partly determined by these factors of relief,

and partly by the position of different districts in relation to the Atlantic Ocean and the continent of Europe. The mean temperature of England is about fifty degrees, a mean deduced from some sixty or more recording stations. Nor does the mean temperature of any one place differ more than two or three degrees from that of another at a similar altitude, but the difference is much greater when comparison is made between mean winter temperatures and mean summer temperatures. So the western districts, and particularly the south-western counties of England, have an appreciably higher winter temperature than the eastern counties. This is due to the fact that the prevailing winds which blow from a westerly or south-westerly direction reach the western districts immediately from the more equable temperature of the ocean. Conversely, the easterly air currents which influence the winter temperature of eastern and south-eastern England and are particularly prevalent in early spring, either never reach the western districts or have been warmed by contact with the land before they do so. Thus, the winds which in summer bring greatest heat to the south-easterly counties bring, in winter, the greatest cold, the highest temperature for most years being recorded within a sixty mile radius of London and some of the lowest temperatures of England, if not of the whole of Great Britain, within a similar radius, particularly in the sheltered valleys of Hertfordshire.

Rain Winds from the West. We shall



MOORLANDS OF THE SOUTH-WEST

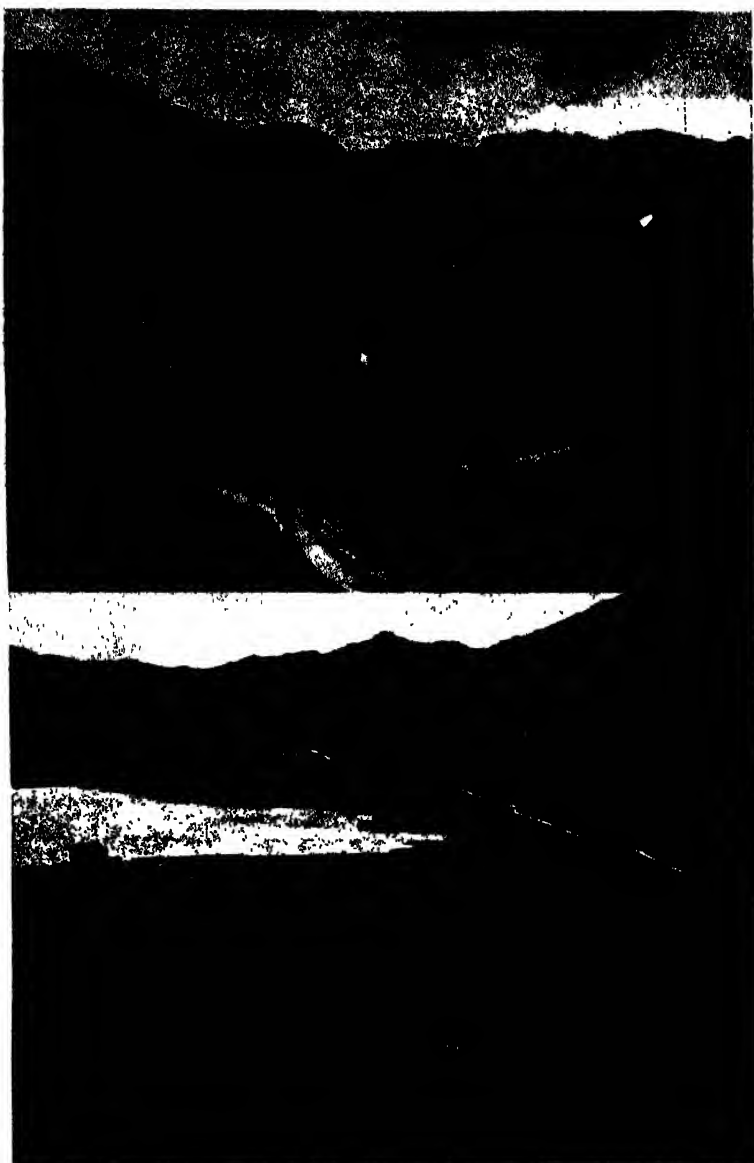
A track across Dartmoor, near Princetown

Photo: Sport and General

later observe the important bearing which this diversity of temperature range has on the production of crops. Still more important is the distribution of rainfall which is even more markedly unequal. In order to appreciate the reason for this it is only necessary to remember that most rain-bearing winds in Britain blow from some point of west. These are forced to ascend by the highlands of the west; thus they cool and precipitate most of their moisture, becoming progressively less rainy as they move towards the east coast. It follows that the annual rainfall decreases generally from west to east and more markedly so where the western highlands are more prominent and the country to the east least undulating. An additional factor tending to the same result is the common path of rain producing depressions across the North Atlantic between Scotland and Iceland, giving to the north and west a greater liability to heavy rain than to the south and east.

So we shall expect to find that the south-eastern counties and East Anglia are the driest parts of Great Britain, whilst the mountains of Cumberland and Westmorland and the western Highlands of Scotland are the wettest. In fact the annual rainfall varies from over 150 inches in parts of Cumberland to less than twenty inches on the south coast of Essex. The upland districts of Devon and Cornwall have a rainfall in excess of fifty inches; by contrast the east coast of Scotland, even to the north of Aberdeen, does not materially exceed thirty inches.

Even in England there is every stage between almost uninhabitable moorland (where there is at the best poor pasturage for sheep) and rich clay soils in which wheat and root crops can be cultivated economically. The contrast



MOUNTAIN COUNTRY

Above: The Langdale Valley and Kettle Crag in the Lake District. *Below:* The south end of Loch Awe, Argyllshire

Photos: British Railways; W. Rose

in standards of rural life in such a relatively small area is admirably illustrated by the comfortable and well-found farmhouses of the Kentish yeoman at one extreme of the scale, and the mean hovels which house the small-holders of the Pennine moorlands between High Force and Alston at the other.

Agriculture. The landscape of the southern half of England is influenced as much by the handiwork of man as by the natural contours of the country, for the characteristic appearance

of the country varies with the crops which are raised. So much is this the case that economic changes affect the scenery from year to year. Much of the west country which was formerly mixed pasture and arable has lost its characteristic tints with the reversion of the ploughed land to pasture. Another instance is provided by Salisbury Plain, which, until the beginning of the present century, gave pasturage to thousands of head of sheep, but now, with the advent of the military, is practically waste land. The result is that the previously smooth turf-covered slopes reminiscent of the South Downs of Sussex are now covered in long-rank grass.

The general trend is for ploughed fields in the lowlands, especially in eastern districts, and for pasture land in the uplands and towards the west. During the second World War, Government subsidies gave great stimulus to the total acreage under crops. Wheat, oats and barley remain the principal cereals, though all three are decreasing in favour of large market gardens which produce vegetables for consumption in the large towns and, for ease of transport,

are laid out in the vicinity of these commercial and industrial centres.

Orchards, particularly of apple, cherry, and plum, occur in many counties, the second of these being associated particularly with north Kent and the third with the Vale of Evesham, whilst in recent years a determined effort has been made to cultivate the sugar-beet for industrial purposes. In addition, there are many local products, though some of these, such as the culture of the saffron (crocus) in northern Essex, have disappeared entirely, whilst others, as typified by the hop gardens in Kent, are steadily diminishing. There is, in fact, a gradual tendency for local agricultural production to diminish in favour of a limited number of staple crops, in the same way as local and rural industries are disappearing in face of intensive competition from foreign countries and systematized production in Britain itself.

With regard to England's livestock, cattle predominate in the lowlands, sheep in the uplands. Just as market gardens have been



THE COTSWOLD SCENE

Stone walls and cornfields in the Wold near Cheltenham



ENGLAND'S RICHES

1. Harvesting in Sussex. 2. Gathering apples from an orchard in the Vale of Evesham. 3. Stacking swedes for winter storage at Arborfield, Berkshire. 4. Building a stack on Salisbury Plain. 5. Bringing home the hay. 6. A rich crop of potatoes on a Lincolnshire farm. 7. Oats stacked in the East Anglian cornlands

Photos: F. Reed

established in the vicinity of large towns, so dairy farming is carried on in the same districts. Horses and pigs complete the list of the most important livestock, but, in recent years, many hundreds of small poultry farms were set up in every part of southern England, so that at one time poultry-farming seemed likely to rank second in importance only to

stock-breeding and is still flourishing in some districts in spite of the shortage of foodstuffs.

The Granary of England. Wheat grows most favourably in a hot, dry summer, such as that experienced in eastern England. It is there, consequently, that most wheat is grown, through the whole of East Anglia, Lincolnshire and Cambridgeshire, where the

soils of the London clay and the reclaimed fenlands are ideal for the purpose. These counties, before the 1939-45 War, were the only ones in which ploughed land predominated over pasture.

Some wheat is grown in the lowlands of all the other counties of southern England, but the acreage of oats is usually greater. Farther west and north, wheat is confined to the most sheltered valleys; even then the harvest is delayed nearly a month as compared with eastern England.

The Cattle Lands. Just as the eastern plain may justify claim to be the granary of Great Britain, so the west country; the extreme south-west and the south-eastern coastal counties together form the cattle lands of southern England. The Hampshire Down sheep and



HORSEBREEDING

A group of horses photographed on the Berkshire Downs, still one of the most important centres of the horsebreeding industry

Photo F. Read

the South Down sheep are numerous and hardy enough to have gained a more than local reputation. The many cheeses which take their name from places in Wiltshire and Somersetshire are evidence of the pre-eminent position which these districts once held in dairy-farming and still in part preserve. The tumbled uplands of Somersetshire and Devonshire are admirable, with their relatively high rainfall and equable temperature, for cattle in the lowlands and sheep on the granite hills.

When we turn to the north-western part of England and Wales we find a very different picture. There is not a single expanse of ploughed land to compare with East Anglia. The nearest approximation is in the wide Vale of York and southern Lancashire. The former is still a corn-growing district, but most of the latter has been merged into market gardens to provide vegetables for the industrial towns of the neighbourhood. For the rest, we shall only find wheat, oats and barley in scattered valleys yielding a poor crop in wet or cold

summers and never taking precedence over stock-breeding and sheep-rearing.

The Welsh mountains, the whole of the Pennine Chain, including the Border Country, and the Lincolnshire and the Yorkshire Wolds, are famous for their sheep, the Welsh Marshes in Pembrokeshire for their cattle; but the chief contrast between this and south-eastern England is that, whereas in the latter entirely unproductive land is confined practically to the commons and public open spaces, in the north-west there are thousands of acres of barren moorland interspersed with treacherous bogs and covered at the best with a rank growth of tough grass where even sheep are unable to find adequate pasturage.

In Scotland the Southern Uplands preserve the tradition of the Pennines, their flat-topped peaks and grassy foothills being as suitable for sheep-grazing as the valleys are for cattle-rearing. In the central plain of Scotland, although this is rapidly becoming more and more industrialized, we find the closest approach to conditions in south-eastern England, except that the higher latitude and greater rainfall make it less suitable for wheat and more adapted to the production of oats and barley; but there is the same alternation of ploughed field and pastureland and the same pattern of trim field and hedgerow timber.

The rest of Scotland is necessarily of lesser productive value, though the few districts where cultivation is practicable are worked to their fullest capacity, so that in the eastern districts land often presents a richer appearance than even in the south of England. The Vale of Strathmore is a notable example of the bounty of this country under favourable conditions and intensive cultivation. Barley is the principal crop and is used locally in the distilling of whisky, but oats and wheat are also cultivated as far north as the Moray Firth. Flocks of sheep range over the mountains, finding adequate summer pasturage, whilst cattle predominate in the hilly country to the east of the Grampians and in the south-west. Such breeds as the Angus cattle are particularly well known for dairy and stock purposes. The western Highlands are completely unsuitable in climate and soil for ploughing and the production of crops is limited to a few low-lying river valleys; there root crops are produced for local consumption but no effort is made to cater for a more extended market.

Centralization of Industry. Until recently the wealth of the country was mainly in



THE WEALTH OF THE LAND

1. Sheep tracking to a dew pond on Salisbury Plain. 2. Harvesting near Lewes, Sussex, with the ridge of the South Downs in the background. 3. Cattle pasturing in the Vale of Blackmore, Dorset

Photos: Central; Sport and General



BY THE SLOPES OF CADER IDRIS

Tal-y-llyn Lake, Merionethshire. This lovely stretch of water, reminiscent of the English Lake District, is well known to fisherfolk
Photo: Reece Winston

the products of the land, but since the Industrial Revolution three major changes have been observed. First, the many hundreds of local and rural handicrafts, which previously existed side by side with agriculture and were centred principally in the small market towns and larger villages, have gradually disappeared. Secondly, heavy industry has become centred in a limited number of areas, most of which are in close proximity to the mineral deposits or the principal lines of commerce. Thirdly, there has been a gradual drifting of the population from country to town—a drift which is inevitable in view of these factors of change. There has also been a secondary movement from country town to industrial town, so that it is not only the villages and purely rural districts which have suffered a loss of population or, at the least, a marked diminution in the normal rate of increase, but also many of the smaller townships which previously supplied by their manufactures the needs of the immediate district.

These changes have been reflected in the appearance of the countryside and have given rise to six districts, of which four are in England,

one in Wales and one in Scotland, in each of which between twenty-five and 150 square miles of the land has totally lost its rural character and developed either into a single urban area or a district in which a number of separate towns are situated close upon each other and seem likely soon to become contiguous.

Growth of Greater London. The most extensive of these is the great urban and industrial area known as Greater London, in which the districts to the east and west of the metropolis are mainly industrial; those to the north and south residential. In this tendency it is possible to observe the continued importance of the Thames as a commercial artery, the tendency being increased by the fact that railway communications along the Thames Valley are generally more complete than elsewhere. Dagenham and Gravesend in the east and Slough in the west mark the extreme limits of this centralization of industry, but the total urban area is growing in spite of legislation to check it and the encouragement of schemes for a Green Belt at a distance of anything up to twenty miles from the centre of London in

order to provide some measure of protection against unlimited expansion.

The Cotton Towns. The urban area which is centred in Manchester for long rivalled the London district in the speed of its growth and the density of its population. More recently economic conditions have tended to check that rapid growth and there is a prospect of greater stabilization. Unlike Greater London, although individual towns have lost their identity, the cotton towns of Lancashire have retained their individuality and are separated from each other by small areas of open country. Even so, Bolton, Barrow, Rochdale, Oldham, Manchester and Stockport form a single economic and industrial unit, whilst along the main roads to Preston, Liverpool and Chorley there is almost continuous development reminiscent of the main road building in the south-east.

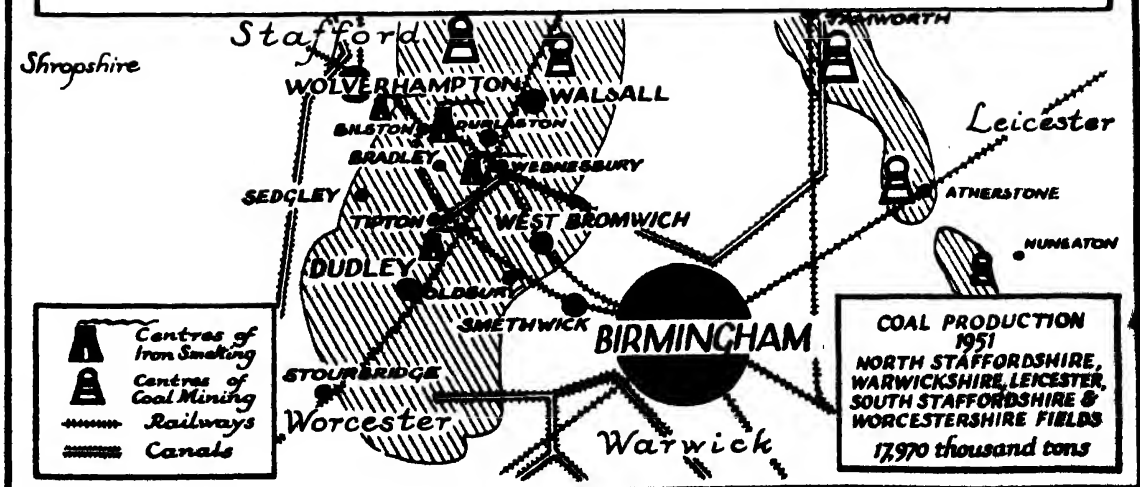
The Woollen Towns. On the other side of the Pennines the woollen towns of the West Riding of Yorkshire are more self-contained. Although Bradford, Leeds, Halifax, Wakefield and Huddersfield form, like the cotton towns of Lancashire, an economic unit, they scarcely can be classed as a single industrialized area. Shipbuilding and allied heavy industries have given rise to the third industrialized district, which is situated in the north-east of England along the estuary of the Tyne—Newcastle, Tynemouth, North Shields and Gateshead

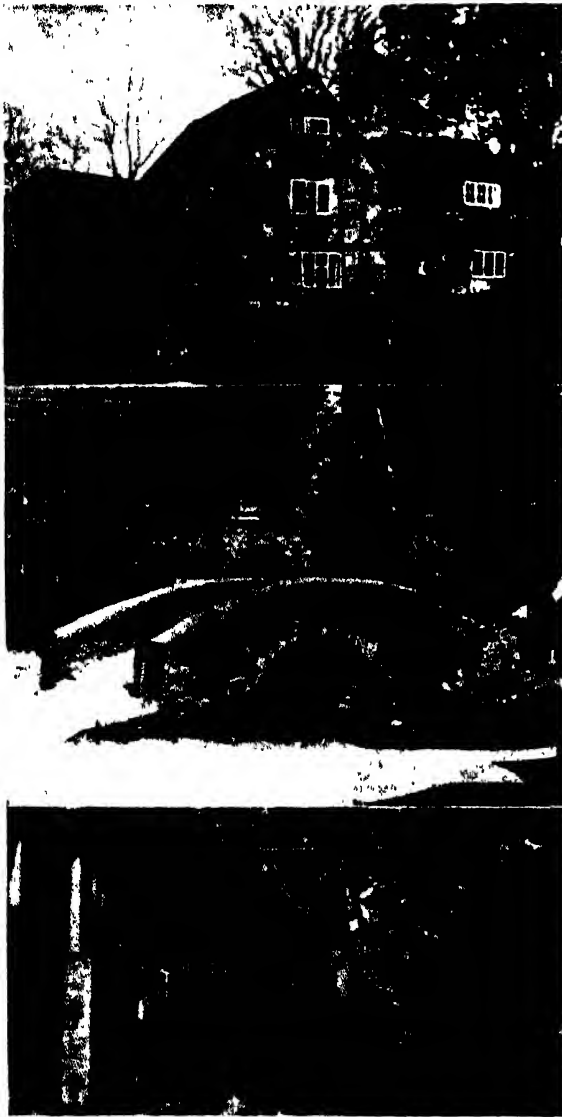
are linked in the same way as the cotton towns of Lancashire. Farther south, near the mouth of the Tees, Middlesbrough, Hartlepool and Stockton-on-Tees together form a much smaller but still significant industrial area.

The fourth area which deserves special mention is that comprehending the city of Birmingham and its suburbs, and the many smaller towns of the "Black Country," which, in spite of periodic "depression," continues to spread in much the same way as Greater London. A contributory factor in the outward spread of all these areas has been increased and more rapid facilities in transport, particularly the electrification of certain railway services—in the case of London, tempting business men to live at a greater and greater distance from their work.

Wales and Scotland. In Wales the port of Swansea is the economic centre of an area larger even than Greater London, but less centralized and a less obvious feature of the landscape. Here, the industrial towns which extend as far north as Merthyr Tydfil are situated along the valleys and separated by the long ridges of the South Wales mountains. In Scotland Glasgow is the only centre of comparable size with those already mentioned. Here, too, there are strings of towns radiating from the main centre along the lines of communication with localized residential areas rather than an unbroken urban development

BIRMINGHAM AND THE BLACK COUNTRY





ENGLAND'S OLD HOUSES

Above. A sixteenth-seventeenth century Sussex farmhouse, timber-framed like most of the houses in the Weald. *Centre.* A post horse bridge and stone house at Appleford, Somerset. *Below.* A corner of Ighiteam Mount, stone built below, timber-framed above, a perfect example of a Tudor and Elizabethan manor house of the south country.

Photos: P. J. Green, F. Read

as in the case of Greater London. This tendency in building to concentrate along the lines of communication was most noticeable when railways were built and became the only important means of transport apart from the river. In the last thirty years, however, with the enormous growth in road transport, both goods and passenger, there has been a greater inducement for the towns to spread and obliterate the agricultural land remaining.

Problems of Centralization. It is obvious that in any economic depression heavy indus-

tries must be affected to a greater extent than agriculture, or indeed, other "lighter" industries such as those concerned with the manufacture of clothes and foodstuffs. In districts where there is a balanced proportion between the various components of industrial life there is a spreadover of prosperity and consequently a greater resistance to temporary misfortune.

Even a casual observer cannot fail to discern the vicious circle of events in a town like Merthyr Tydfil, which is dependent almost entirely on the coal and iron industries. The onset of depressed conditions has two marked effects—an increase of unemployment with a consequently lower spending power of the population and, at the same time, an increased burden on the rates for necessary relief measures. These two factors in turn combine to cripple retail trade, so that many of the smaller shops are compelled to close, whilst those which continue to trade are forced to increase their prices. Thus, the efficiency of the relief measures is diminished and the standard of living is still further lowered.

A second difficulty inherent in extensively industrialized areas is the factor referred to above, the time, whether in work or leisure, lost by travel to and from work, which in extreme cases may exceed ten hours per week, and the intricate organization required for the provision of necessary foodstuffs, including milk supplies for several million inhabitants.

In the Greater London area, for instance, is massed rather more than one-fifth of the total population of England. It follows that between a fifth and a quarter of the total produce of the country must be transported to this single centre for distribution—a problem which does not exist in a country of smaller, scattered towns. The full significance of this change was realized during the 1939-45 War. A third objection has recently been made on strategic grounds alone. It is pointed out that in case of war, great cities are particularly vulnerable to air and now atomic attack.

There is, therefore, a growing tendency to decentralization. If what is at present only a tendency fostered by government support becomes a national movement, the face of the land will probably suffer a change in the next fifty years as great as has overtaken it since the Industrial Revolution.

Building Stone and Fishing. Some of the principal natural resources and dependent industries of Britain have been indicated in the preceding paragraphs. They are more fully

developed in the chapter "Industrial Britain." There remain two—one of the land and one of the sea—the quarrying of building stone and fishing, of which the former has greatly influenced the characteristic appearance of the British landscape; whilst the latter has laid the foundations of a great industry.

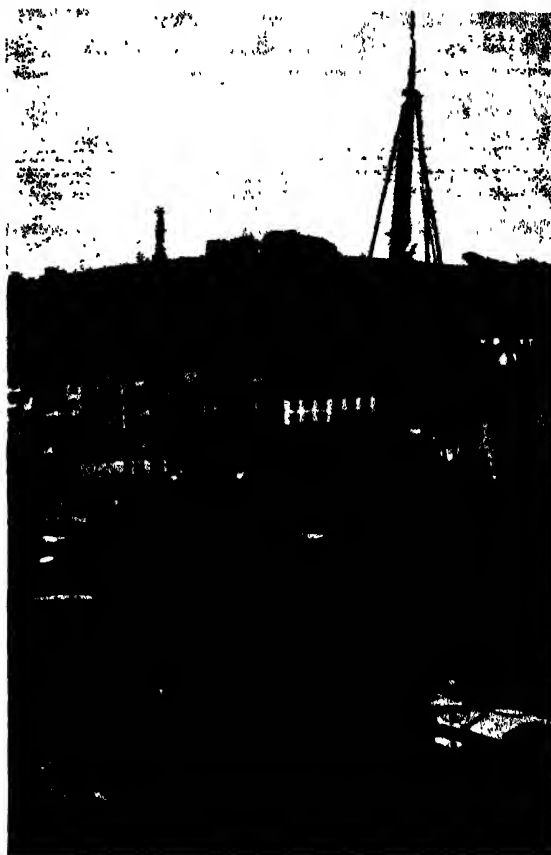
The home seas of Great Britain are relatively shallow, and are consequently the breeding ground of many kinds of edible fish and the permanent home of many others. The North Sea, which is in very few places more than 600 feet deep, is the most important fishing sea, but the coasts of the south-west of England are also of great importance. The wide extent of this industry is illustrated by the fact that along the Scottish coast from Aberdeen to Inverness there are over fifty villages and towns in which more than half the population is engaged in the fishing industry. Capital is represented by the trawlers and drifters; labour by the crews of the vessels and the hands engaged in sailing and in transporting fish when landed. In this part of Scotland many vessels are privately owned, their owners corresponding to the smallholders of the interior. The Norse stock from which many are descended is obvious from their appearance and their adaptability to a seafaring life. Until the advent of the steam drifter most of these fishing towns were wonderfully prosperous, particularly those adjoining the Moray Firth, but in recent years there has been a marked lessening of catches, a fact attributed by many to the presence of the steam drifters, so that these are now precluded from fishing in the shore waters of the Moray Firth.

Farther south, Hull, Grimsby, Yarmouth and Lowestoft are the chief distributing centres of the herring fisheries. Shoals of these fish move south as the year progresses and the handling of the catches gives employment to local labour and to many hundreds who travel south with the fish. In addition, many other towns, such as Whitby, Bridlington and Scarborough, have small fishing fleets and a flourishing local trade.

Prior to the introduction of railways most of the present south coast resorts, such as Hastings, Brighton and Eastbourne, were fishing villages, but the vast catering industry consequent on the increasing influx of summer visitors has dwarfed the previously existing industry, so that in many cases it no longer exists. In Devon and Cornwall, where the coastal fishing grounds are less rich than off the east coast,

catering for holiday-makers is now in most places more important than fishing, since the pilchard, which until recently was a source of great wealth to Cornish fishermen, has almost totally disappeared.

The quarrying of building stone is widely distributed. Where it is used in local construction it adds greatly to the attraction of the



LOOE

The quay and fishing boats landing their catch at one of the most sequestered of Cornish villages

Photo. P. J. Green

villages and towns, since it tones admirably with the natural colours of the countryside. The limestone villages of the Cotswolds, the sandstone farms and villages of Mid-Sussex, the stone-built villages of the north Norfolk coast, the flint-built churches and farms of the chalk country, particularly in Kent and Buckinghamshire, the granite of Dartmoor and the gritstone of the Pennines, are only a few of the most conspicuous examples. Dorset is particularly rich in stone of a high quality. Purbeck marble and Portland stone have both been used extensively throughout the country.

INDUSTRIAL BRITAIN

IN our present complicated days of highly specialized work and foreign marketing, one is inclined to forget that early man was entirely dependent upon his own efforts—the origin of all industry. He used stone to start with; stone because stone was available. Certainly he was particular in his choice of stone, but his first efforts in tool making were with the natural mineral at hand. Later his knowledge extended to bronze and then to iron—changes which in their turn may have been regarded in industry as being as far-reaching in importance as our own familiar Industrial Revolution.

Each change records a marked development in personal skill—each change marked the creation of the craftsmen—each change added to the range of tools available to man in his “war for life.” Similarly, the arts of hand-spinning and weaving, and of domestic cooking and the preparation of food and drink, led to higher standards of living and comfort and, generally speaking, lifted man to a higher plane.

As these personal activities continued and, in effect, laid the foundations of modern industry, man, to a large extent, still remained for centuries dependent on his own personal activities. His ability to move from place to place was tremendously limited—his horizon was confined, and it was not until communications and means of travel improved, that his sphere became enlarged sufficiently to make use of the skill of other craftsmen.

It is easy to understand, therefore, a natural tendency for activities of particular kinds to be associated with, and located in, specially favoured areas. The presence of easily obtained minerals fixed the metal industries; the abundance of food supplies led to the manufacture and to the preparation of foodstuffs; the pasture areas became the homes of weaving.

Prior to the eighteenth century, Great Britain was essentially an agricultural community, and our people as a whole showed no particular aptitude for industry, nor any particular inventive skill. England lagged far behind

many European peoples and much of the progress noticeable in our country can be traced to foreign influences.

A list of the great towns of the thirteenth century shows manufactures of woollen cloths, linens, rope, leather, bread and cutlery. There were also important mills and breweries. What is of extreme interest, however, is that, with the exception of Beverley and Ripon in Yorkshire, no manufacturing town of any size was to be found north of what we accept to-day as the Midlands. The industries, it can also be seen, were largely associated with agriculture, and it was only where deposits of iron ore, with nearby forests for charcoal, were found, that there were any signs of metal industries.

By the end of the seventeenth century marked changes could be traced. Voyages of discovery had very considerably widened man's vision; the work of craftsmen of world fame became available by exchange. Higher standards were set and only those who could withstand the keen competitive challenge could keep their industries alive.

Continental wars and religious persecution saw the Flemings and Huguenots arrive in large numbers into England from Flanders and France. This influx of these highly skilled weavers and dyers in woollens and silks gave a great stimulus to British manufacturers and placed them in the forefront of European production. As the Continental centres were laid waste by war, important works sprang up all over England, where sufficient sheep could be reared to keep the skilled workmen employed. Every county had its industry and each to a large extent specialized in its own brand of cloth.

The Use of Iron and Steam. At this time the iron industry was of little account, and market-places sold large quantities of foreign iron goods. The development of metal industries awaited the solution of the problem of mining coal and its use in smelting, and the period immediately prior to the Industrial Revolution saw our England with but one

**IMPORTS
1951****Raw Materials
in £ million**

Oil, Fats, Crude Petroleum, Gums, Seeds, etc	347
Cotton, Raw & Waste	259
Wool, Raw & Rags	245
Wood & Timber	220
Paper Materials	145
Hides & Skins	67
Iron Ore & Scrap	46
Other Ores & Scrap	77
Other Raw Materials	305

Total 1,711

**EXPORTS
1951****Manufactures
in £ million**

Vehicles	480
Machinery	365
Metal Goods	230
Cotton Goods	209
Woollen Goods	177
Chemicals, Dyes & Paints	141
Electrical Goods & Apparatus	97
Pottery, Glassware, etc.	67
Cutlery, Hardware, etc.	63
Clothing & Footwear	60
Other Manufactures	384

Total 2,273

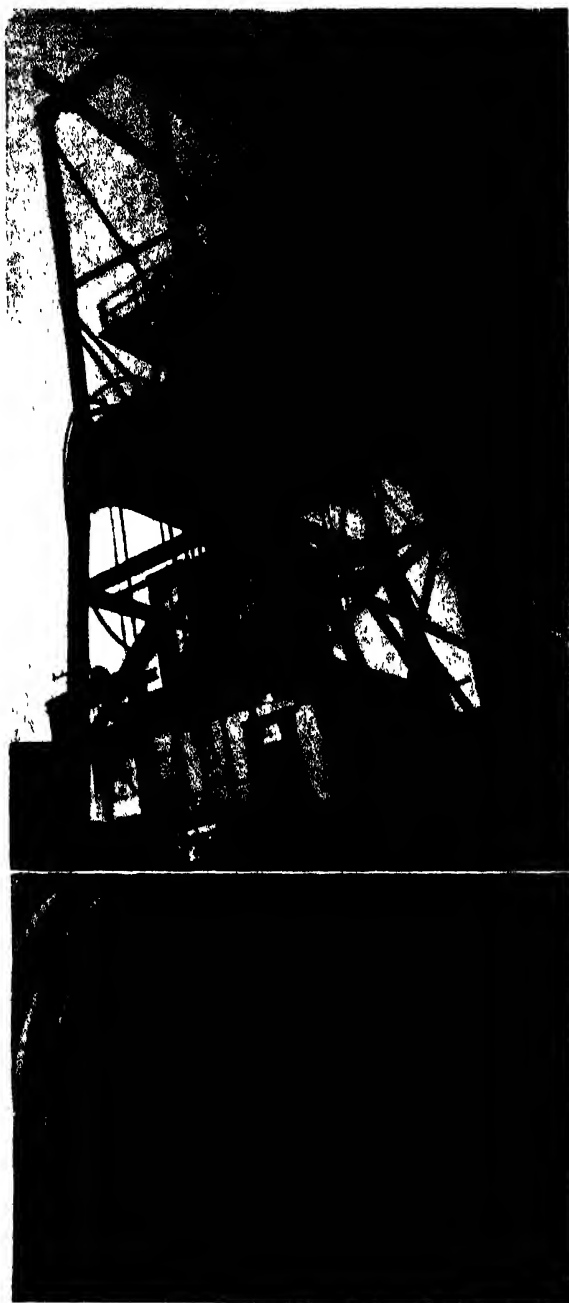
**PRODUCTION
1951****Metals***In thousands of tons*

Iron Ore	14,648
Pig Iron	9,669
Steel Ingots & Castings	15,638
Refined Copper	205
Refined Lead	74
Pure Tin	28
Pure Aluminium	28

Fuel and Power

Coal	222,257 thousand tons
Coke	28,470 thousand tons
Gas	14,077 million cubic metres
Electricity	58,490 million kWh
Water Power	
Resources at all sites, developed or undeveloped	1,116.4 thousand kW
Developed sites	259.9 thousand kW

THE BASIC FEATURES OF BRITAIN'S INDUSTRIAL POWER



COAL MINING

Industry gravitated to the coal-fields during the Industrial Revolution: to-day the surface supplies are exhausted and deep shafts have to be sunk to tap the immense resources. The photos show (above) the winding gear at a pit-head and (below) a sixteen feet steel arch lining an underground roadway to the coal seam.

Photos: Poullet Diffryn Associated Collieries Ltd.

industry of any real account—the woollen industry. But there were many minor activities in tin, copper, brick-making, pottery, quietly progressing, and each required but some stimulus to vitalize it into importance. This

came with the great discovery—the application of steam to machinery. Coal now became the dominating factor in industry and from now until the twentieth century we find a steady drift of population to the coal regions. Marked changes took place. Industries located in towns which could not withstand the challenge of the new factories and their machines steadily declined, and new centres leaped into prominence. The unsettled state of Europe left the British manufacturers without serious rivalry and Great Britain became the world's foremost industrial nation.

It is, of course, impossible to separate the wealth of a country's activities from its political influences. The extension and development of the British Empire gave tremendous impetus to shipping and overseas trade. New markets were constantly being formed for manufactured articles of all kinds, and the close of the nineteenth century saw Great Britain at the peak of its wealth and power.

The World Wars checked industry. The arrival of electric power has very largely robbed the coal-fields of their dominance in localizing industry, and much movement has, and still is, taking place. Works are being abandoned in certain areas, while in others—where transport facilities are now of greater importance than nearness to coal—new industries are springing up around the great ports, centres of population, and centres of communication.

In spite of all this movement, however, certain centres have remained constant, and the localizing of industry can still be traced historically. Climatic conditions, access to raw materials and means of distribution are important governing factors, and industrial skill plays its great part. The establishment of an industry in an area, no matter for what original reason, results in the growth of a skilled artisan class. Successive generations follow in the same trade and a traditionally skilled work-people results. It would seem that no matter how far the machine may develop rationalized methods of industry, there is still an imperative demand for the skilled industrial worker. Furthermore, tradition is of great significance, and many an industry to-day remains in its original location for no other reason than that the historical power of its association is a business asset. These two factors, skill and tradition, popularly termed "geographical inertia," have, alone, preserved industries in areas which in the light of modern requirements might be considered unsuitable.

The Coal-fields and Industry. The natural processes which formed the mountain systems of Great Britain also served to bring to the surface of the earth rocks which would otherwise be deeply buried. Along both flanks of the limestone Pennines, and at its southern end, coal measures have been exposed. Surface workings have long since been exhausted, but immense reserves are available by the sinking of shafts to the coal seams. The most readily available deposits have been largely worked out and the natural tendency is for the coal to be more difficult to obtain, and in consequence for it to become more costly. These factors are of considerable importance and explain in some measure one of the difficulties of the mining industry to-day, when faced with keen foreign competition. It was towards these coal-fields that industry gravitated during the Industrial Revolution. In some cases, early industries were already associated with

areas in which coal was later worked. These industries received great impetus and added importance when water power lost its influence and when the factory and the machine took the place of the hand-workers. Elsewhere new centres of industrial activity sprang up. Old-established centres of manufacturing fame, without coal at their doors, wilted before the strong competitive challenge of the new growths and, as in Somerset, the west of England woollen industry of Bradford, Yeovil and Westbury faded gradually away.

Northumberland and Durham. This coal-field has great centres of activity along the Rivers Wear, Tyne and Tees. The Tees Valley is associated with the making of iron and steel goods and the smelting of iron-ore. Large supplies of iron were discovered in the nearby Cleveland Hills. This with local coal and limestone required in smelting, formed the basis of a vigorous industry—while a good

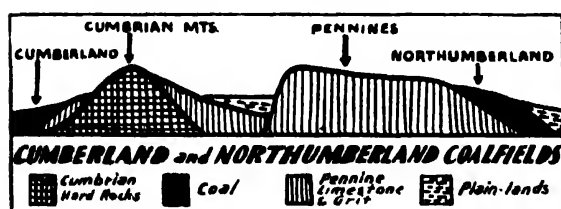


THE INDUSTRIAL HUMBER

The photograph shows, among others, ultramarine and canister works and factories manufacturing soap, cement, paint and chemicals in addition to a tannery and oil mill

Photo: Hull Corporation

river estuary facilitated trade. This area has specialized in the making of steel-girders and bridges, and the large towns of Middlesbrough, Stockton, West Hartlepool, and Darlington are evidence of the importance of the work. This latter town is also an important route town—a road and rail centre. Where this occurs, railway workshops naturally spring up, as will be seen elsewhere in the country, so that in addition to its “area” industries, the making of engines, rolling-stock and the carrying out of repairs forms an important industry. Middlesbrough and West Hartlepool are the busy seaports which carry on the import and export trade which tends to increase as local supplies of iron are gradually becoming less and less sufficient for the needs of the area and

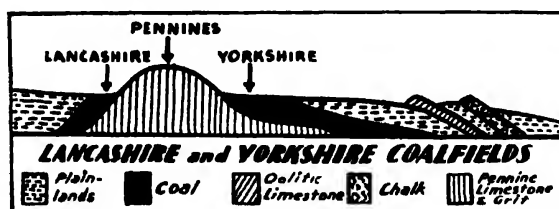


imports of ore from Sweden increase. Associated with this sea-borne trade are important works in connection with ships and shipbuilding.

Farther north, Newcastle-on-Tyne is the centre of a hive of industrial activity. From the north of the River Tyne, at Tynemouth, the river is lined with factories, workshops, and shipbuilding yards, and North and South Shields, Jarrow, Gateshead, and Newcastle (the Tyne ports) have a river trade which is second only to London. Shipbuilding is the most important work, and the Tyne ports, with Sunderland, include the biggest shipbuilding yards in the world. Heavy engineering is general and local deposits of salt have given rise to chemical and glass works. The coal of the mines, many of which run under the sea, was found especially suitable for burning in ships in the days before oil fuel. Very little is now used for this purpose. Blyth, at the northern end of the field, is the great exporting centre. By far the greater proportion of the coal raised, however, is used in the local industries.

It is of interest to remember that the first surface workings of coal were in this area, and that many of the earliest mines are now worked out. This explains in some measure the present-day fluctuations which the coal-field is experiencing.

Yorkshire, Derby, and Notts. Extending from the River Aire to the River Trent, this coal-field has the largest output of British mines. The coal brought added prosperity to a well-established woollen industry. The Pennine moorlands gave home to large numbers of sheep, and local soft water, besides giving power for machinery, also proved suitable for washing and cleansing the oily wool. The valleys of the Rivers Aire and Calder coming down from the Pennine millstone grits, gave birth to woollen centres, and to-day Keighley, Shipley, Bradford, and Leeds on the Aire, and Halifax, Huddersfield, Dewsbury, and Wakefield on the Calder carry on specialist trades in worsteds, shoddy, carpets, rugs, cloth, and dyeing. Leeds, famed for its ready-made



clothing, acts as the general distributing and commercial centre. Some cotton and silk manufacture gives indication of the versatility of the work carried on. Local supplies of wool are now replaced by huge imports from Australia, New Zealand, South Africa, and the Argentine. The development of the woollen industry has given rise to the manufacture of the necessary machinery, and this is made at Leeds, Bradford, Halifax, and Huddersfield.

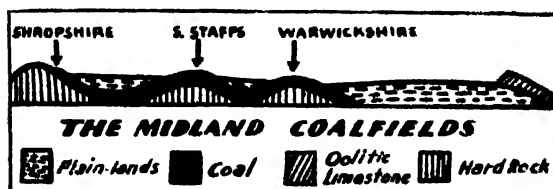
Farther south, in the valley of the River Don, local supplies of iron ore, wood for charcoal, water power and grit rocks for grindstones, gave rise to steel handicrafts which have grown to great modern industries, as local coal replaced charcoal and water power. Sheffield, world-famous for its steel, excels in all forms of steel manufactures ranging over cutlery, tools, railway lines, engines and stock, boilers, ship-steel, armour plate and guns.

Nearby, Rotherham, with its mines, provides iron ore, but local supplies are now quite inadequate and ores are obtained from Cleveland, Lincolnshire, and Sweden. Doncaster—an important route centre—is famed for its railway-engineering works.

This great industrial area of woollen factories and steel works, needs outlet ports, and Hull (properly Kingston-upon-Hull) and Goole meet the requirements of import and export.

There are further outcrops of coal on the western flanks of the Pennines, and here a long-established industry, based on local high quality iron ore, developed into an important national activity. Coal is mined at Maryport, Workington, and Whitehaven, and, as in the Durham coal-fields, the seams run many miles under the sea. At Barrow, in the Furness district, a large shipbuilding industry grew up, but the inter-war years saw the areas passing through very difficult times, and at one time it threatened to become derelict. Latterly, however, there has been a revival of shipbuilding and the manufacture of armaments.

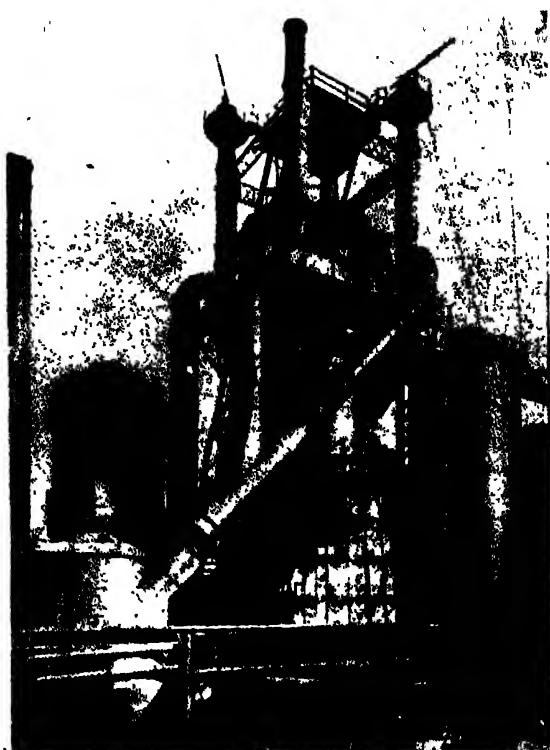
The Midland Industrial Region. The Derby and Nottingham coal-field, which is continuous from that of Yorkshire, shows a



different trend of manufacture. Mine shafts can be sunk through the covering soils laid down in the Trent Valley, and many mines here have quite a rural aspect. Naturally enough, industries related to the plain lands have sprung up, and the famous cattle and sheep of the farming lands have formed the basis of noted tanneries. The tanning of leather and the production of boots and shoes and leather goods are common to Leicester and Nottingham. Leicester has also considerable woollen manufactures, and Burton, using the pure properties of the Pennine water, has developed breweries. Nottingham has specialised in cotton, hosiery, and lace.

Derby has potteries which formerly used local clay, but which now obtain supplies from Cornwall; but its chief fame rests in its geographical position as a route centre, and workshops associated with the railway, and general iron and steel works are very important. In recent years important motor-industries have centred in the city.

Staffordshire and Shropshire. The coal-fields of the Midlands are scattered among fertile agricultural lands, for the coal measures lie in a folded line, the dips being filled with soils. Similarly, to the north of these fields, coal measures appear in detached positions in north Staffordshire, and in the smaller fields of Ashby-de-la-Zouch, Nuneaton, and Tam-



BLAST FURNACE

Steel was the twin factor which with steam made possible modern industry. The blast furnace shown, one of many hundreds in the industrial north, has an output of 2800 tons of iron per week.

Photo: Dorman, Long & Co. Ltd.

worth, whose mines supply large quantities of coal for the London area. In north Staffordshire coal and iron are found together, and there are naturally iron industries, but the fame of this coal-field lies in its noted pottery manufactures. Local supplies of china clay laid the foundation of this famous industry, but, to-day, as in many other instances, home supplies of raw material have been exhausted and the kaolin is now imported from Cornwall. The canal which links this coal-field to the River Mersey is the line of trade, and along this canal sprang up a series of towns which are now merged into the single township of Stoke-on-Trent.

South Staffordshire has excellent supplies of coal and lower grade iron ore, but ore is imported also from Spain and Lincolnshire. Distance from the sea and consequent difficulty of transport has had its influence on the industries of this area. The towns have concentrated on the manufacturing of articles of small bulk: hardware, smaller iron goods, firearms, ammunition, engines, scientific instruments, locks, saddlery, bedsteads, nails and screws, needles,



STAGES OF MOTOR CAR MANUFACTURE
Vehicles in various stages of construction being conveyed along endless belts

Photo. Morris Motors Ltd.

bolts, electrical accessories, pins, jewellery and brass goods are among the numerous specialist trades carried on. Birmingham is the most important city with over 1,000,000 people, and is the natural centre. Other towns engaged in these forms of manufacture are Wolverhampton, Dudley, West Bromwich, Walsall, and Redditch.

In recent years great strides have been made in the manufacture of articles which can "export themselves" under their own power, and Coventry, Birmingham, and Wolverhampton are noted for the making of cycles,

motor-cars, electric and petrol engines, and motor tyres. Much of this area has been laid waste by slag and tip heaps. A smoke pall from the factories, workshops and furnaces hangs for ever over a region which has gained the inevitable title of the "Black Country."

The presence of farm lands is reflected in the leather industries mentioned above, but, in the freer and more open cattle-lands, Stafford still shows its "pre-Industrial Revolution" association by its yet famous boot and shoe manufactures; the geographical control of the Midlands is reflected in the number of roads and railways which converge on the town. As in the case of similarly situated centres, the workshops in connection with the building of railway engines and the railway industry are of extreme importance.

The Shropshire coal-field has been more or less worked out, but an interesting historical association remains in the town of Ironbridge, where, still spanning the River Severn, stands the first iron bridge built, but a short hundred years ago. Other noted industrial towns of the Midlands are Droitwich, which gives the mineral salts so valuable to the chemical industries of Lancashire, and Rugby, which as a route centre has noted railway works, and, added to them more recently, important electrical works.

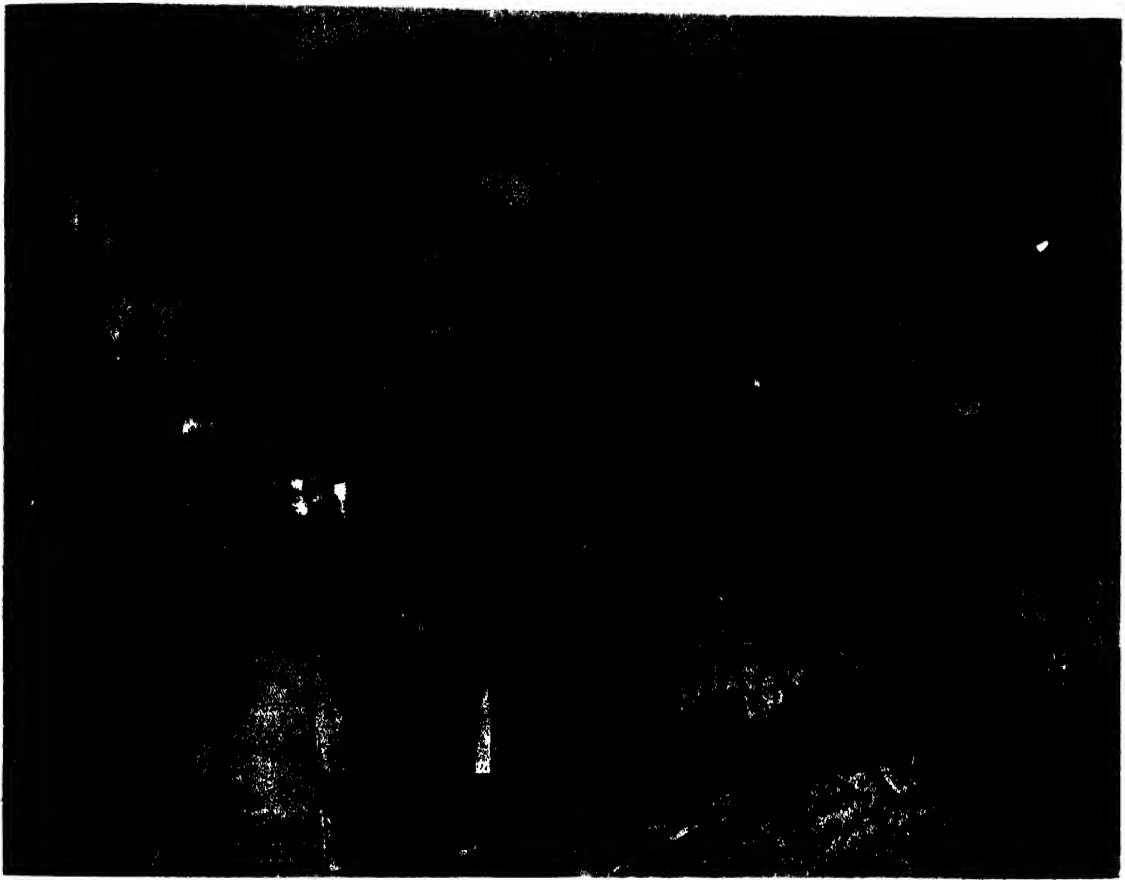
South Lancashire and Cheshire. When cotton was first introduced into England, it was found that the wetter west of England was



MASS PRODUCTION

Outcome of the Industrial Revolution and the most important development of modern industry. The schematic diagram reproduced shows part of an Oxfordshire motor-car factory

Photo: Morris Motors Ltd.



A CENTRE OF THE MIDLAND INDUSTRIAL BELT
Potteries photographed from the tower of Hanley Parish Church, looking towards Burnley
Photo The Times

best suited to the handling of the delicate cotton fibre, and mills sprang up in the Lancashire area where water power could be provided by the fast-flowing mountain streams. It was an easy move to transfer these activities to the adjacent coal-fields when steam-power and machines came into common use. Just as originally the spinning towns chose the wetter exposed valleys, so the weaving centres kept to the more sheltered valleys or to the drier plains. This laid the basis of specialization, and although towns to-day combine industries, it is not uncommon to find that the cotton spun in one town is woven in another and dyed in another specialist centre. In addition to this work there are important calico bleaching and calico printing industries, based on the pure supply of Pennine water.

The raw material used to come from the United States of America, India, and Egypt, but in recent years there has been a steady increase of supplies from Nigeria, Uganda,

Queensland, and other parts of the Commonwealth. Many contributing causes led to this development of cotton planting, but among the most serious was the increase of home manufacture in the U.S.A. and in India, and also the keen competition set up by Japan. These circumstances had their considerable effect on the British cotton manufactures and Lancashire has suffered in consequence. Before the first World War, two-fifths of the world's spindles were in Lancashire, but this number has been very greatly reduced.

Oldham, Bolton, Rochdale, Stockport, Manchester, Salford and Preston are noted spinning towns, and Blackburn, Preston, and Burnley still carry on a specialized weaving trade, but where all processes of manufacture are carried on together larger towns appear, and among these are Blackburn, Bolton, Preston, and Oldham. Local supplies of ore laid the foundation of iron works, which naturally devoted their attention to the provision of the necessary

specialist machinery for the cotton industry and the work of Oldham, Preston, Bolton, Bury, Wigan, and Manchester, and sufficient to supply all local needs and to provide excess for export.

Reasonably enough, the closeness to the Yorkshire woollen industry has led to a certain amount of overlapping which is particularly reflected in machine manufacture. The skill of the workmen has also attracted important silk industries to Macclesfield.

The incidence of coal and iron, water and chemicals, on this field has created a vast

of Warrington, and salt, which is found in large quantities near Northwich in Cheshire, has given a chemical "twist" to the industries nearby, for chemicals, soda, soap and glass are made at St. Helens, Widnes, Port Sunlight, Warrington, and Runcorn. The geographical position of Crewe led to the development of railway engineering workshops.

South Wales. The rivers draining from the plateau of southern Wales in Glamorgan, Brecknock, and Carmarthen to the Bristol Channel, have scored deep and narrow valleys, and in doing so, have exposed the coal measures



TRANSPORT AND INDUSTRY

The close relation between industry and internal communication is shown by this Lancashire colliery and the coal-laden barges on the adjoining canal

Photo. Lancashire Industrial Development Council

textile, and a complicated metal, industry. Manchester has become the natural centre for the distribution of the raw material and the collection of the finished work, and may be regarded as the general headquarters of the whole cotton industry. Liverpool is the great port of the area and in addition to the natural traffic of goods and passengers it has developed industries associated with its shipping-lines and for the vast population which lies behind it. So great has become its trade that it has swollen to the other bank and Birkenhead joins Liverpool as a famous shipbuilding centre. Flour-milling, tobacco-making and the refining of sugar, are important industries associated with food, and there are also considerable workings of iron, steel, and general engineering.

The agricultural nature of much of the country is reflected in the leather industries

which lie beneath. The word "valleys" has become fraught with meaning and significance, for in their narrow compass they house collieries, pit-heads, the homes of the workers, road and rail routes, and the great refuse tips of the mines. Lack of co-ordination by the authorities led to hopeless over-crowding and lack of proper sanitation—it is no uncommon thing to read of the great refuse heaps sliding inexorably to crush the meagre homes of the people—and these conditions coupled with the acrid fumes of the collieries, which destroy even the grass on the mountain sides, have created a dreary air of unpleasant desolation which makes the South Wales coal-fields both ugly and sordid.

Between the wars, too, when the coal export trade of South Wales had shrunk very considerably, there was much unemployment and

poverty, and one-time prosperous towns passed through very bad times, while some were on the verge of disaster. The authorities were alive to the unhappy state of affairs and sturdy efforts were made to introduce fresh industries.

The coal-field has a variety of coal and has large reserves of anthracite and steam coal. Both of these are particularly valuable and laid the foundation of the rapid growth of towns. Locally obtained ores were smelted and at the end of the last century Merthyr Tydfil was the most important of many noted centres. As these supplies failed to meet the increasing requirement, ores were imported from Spain, a gradual move of the smelting centres took place towards the coast, and the ports of Neath, Swansea, Cardiff, and Port Talbot added to

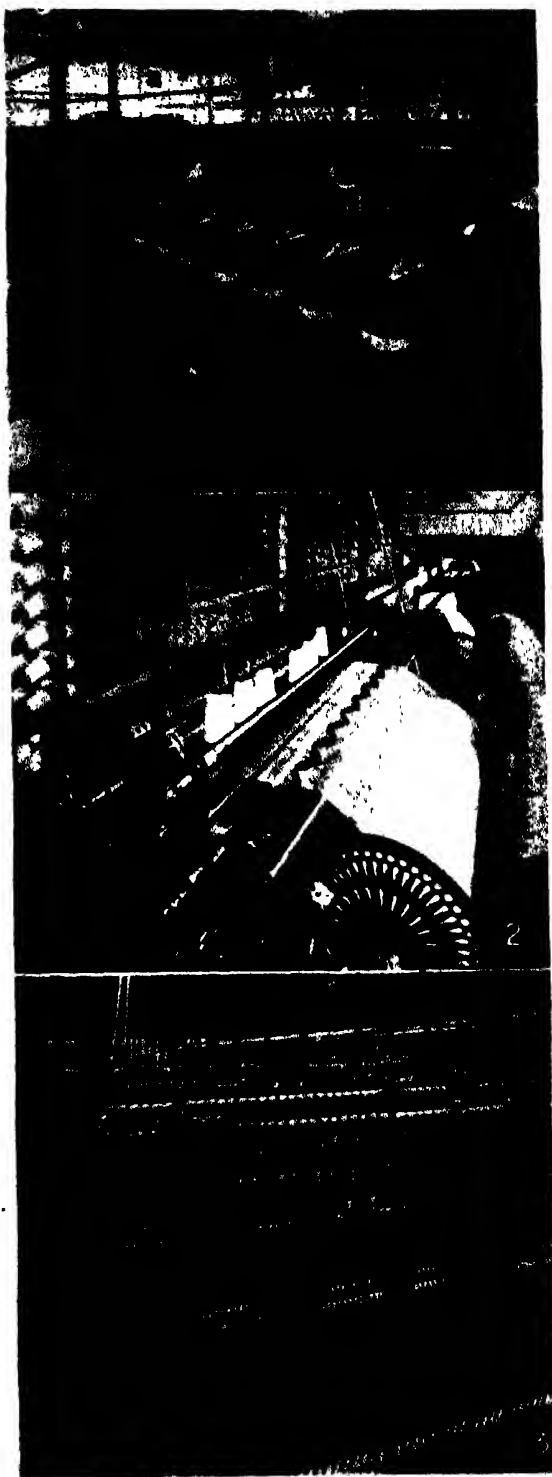


their already growing importance as sea-ports, by becoming smelting centres.

At its height, apart from the smelting of iron ore, the tin-plate industry flourished with the preparation of copper, and bronze and zinc. Noted engineering works—particularly railway workshops—sprang up. A vast export trade developed and Cardiff and Newport, the principal centres, each had their shipbuilding yards and workshops.

The Scottish Coal-fields. Industrial Scotland is practically confined to the Scottish Rift Valley. In geological times, between the mountain blocks of the Grampians and the Southern Uplands, two great faults appeared which "let down" that part of Scotland. Other deposits have been placed down on the floor of the southern portion, and these covered the original plateau surface, and in their turn suffered from the movements and pressure of the earth.

This Rift Valley contains an arrangement of low plain-land and volcanic mountains, and spurs form the Southern Uplands. Here is found the largest and most fertile area in Scotland and it became the centre of population and its most important agricultural centre. Strathmore became a noted plain-land.



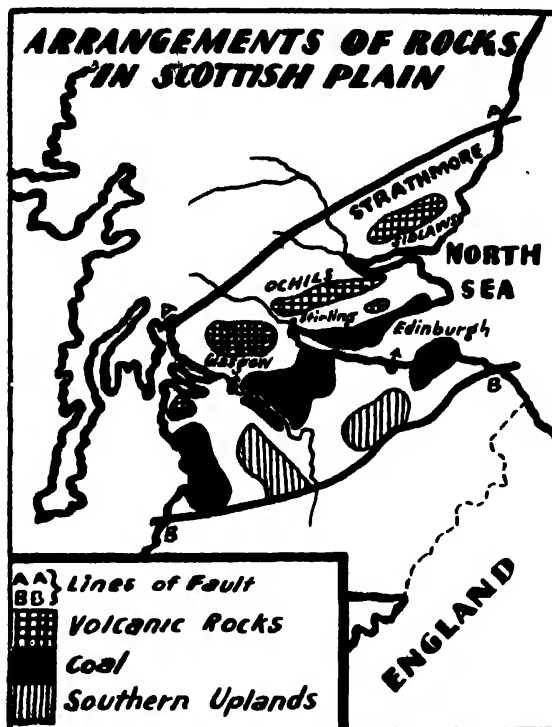
THE COTTON INDUSTRY

England manufactures vast quantities of goods in all the highly specialized textile fields. Processes in cotton manufacture are shown above: 1. Drawing frames. 2. Warping. 3. Passing the fibre through the mules.

Photos: Herrick, Draxton, & Co. Ltd.

The industrial age witnessed a great movement of people to the coal-fields, and the balance of people moved from Edinburgh to Glasgow. Iron was found generally with coal, and one of the first iron works in Great Britain opened near Glasgow. The River Clyde has exposed the coal and all along its banks is now a cluster of large and busy towns—Linlithgow, Hamilton, Motherwell, Coatbridge, Glasgow, Dumbarton, and Greenock. Half of the Scottish output of coal comes from this—the Lanarkshire coal-field. The coal mining towns are Hamilton and Motherwell—the smelting centres are at Glasgow and Coatbridge. Heavy steel goods and machinery are manufactured generally—but of outstanding importance are the many shipbuilding yards—particularly those of the industrial capital, Glasgow. Since Glasgow is the great port of a vast population, industries incidental to this fact have sprung up and flour milling, sugar refining, and general engineering have all added to the importance of this famous city.

Similar conditions prevail on the Ayrshire coal-field as do in that of Lancashire, and again we find an important cotton industry. Paisley is noted for its cotton thread, and the



DRYING STRAW HATS

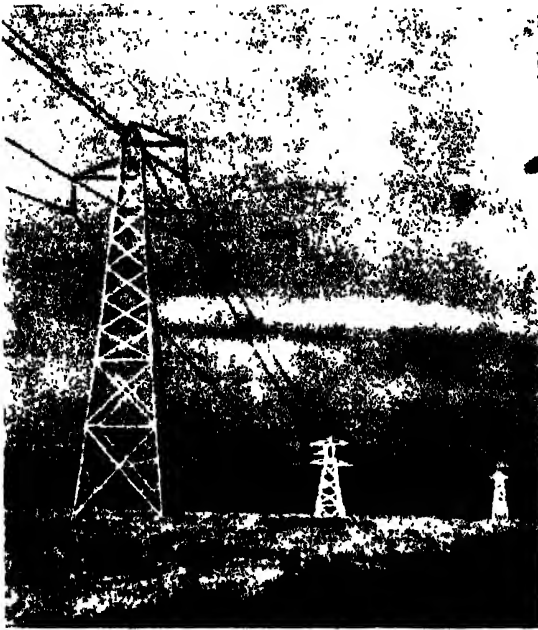
Straw hats laid out to dry in the open air at a Luton factory

Photo: Photopress

ports of Ayr and Ardrossan are concerned with the export of coal to Ireland. Kilmarnock, with its woollen manufacture, shows its association with the sheep of the Southern Uplands.

The East Fife coal-field, with its seams running under the Firth estuary, has considerable export trade with the coalless Baltic countries, but even so it supports many noted and specialist industries. General trade with the Baltic countries led to the import of flax, and gave birth to linen industries—table linen and sheetings. By using the oil of the flax seed (linseed) a process was discovered that led to the growth of a large oil-cloth industry. The linen backing was later replaced by jute from India and the introduction of Spanish cork laid the foundation in Kirkcaldy of a famous linoleum industry. Dunfermline, Arbroath, and Montrose are all concerned in the linen industry.

Of all the towns on this coal-field Dundee is the most noted, for it combines the linen and linoleum industries, and has specialized in coarse linens and sails. An interesting connection with the linoleum manufacture is the making of coarse bags from jute fibre imported from India. The fertility of the rich Carse of Gowrie behind the town gave rise also to a noted jam industry and later this was extended to the preparation of marmalade, which it



POWER TRANSMISSION LINES

The Grid System has brought the possibility of electrical power to every village in the country

Photo: British Electrical Development Association

may be noted, uses the factories *after* the jam season is over.

Although Stirling and Perth lie off the coal-fields, each in its own way has become noted for manufactures. Each town has arisen from an important geographical setting as the focus of routes, and each in consequence grew as a marketing centre. Perth is famous as a cleaning, bleaching, and dyeing centre, the waters of the River Tay being peculiarly suited to those trades. Stirling lies in the heart of agricultural surroundings and its proximity to the coal-fields has made it possible for the town to become a favourable centre for necessary repairs. In addition some woollen manufactures have also arisen from the historical association of sheep-rearing.

Some of Britain's basic industries are now listed, with notes on their chief centres.

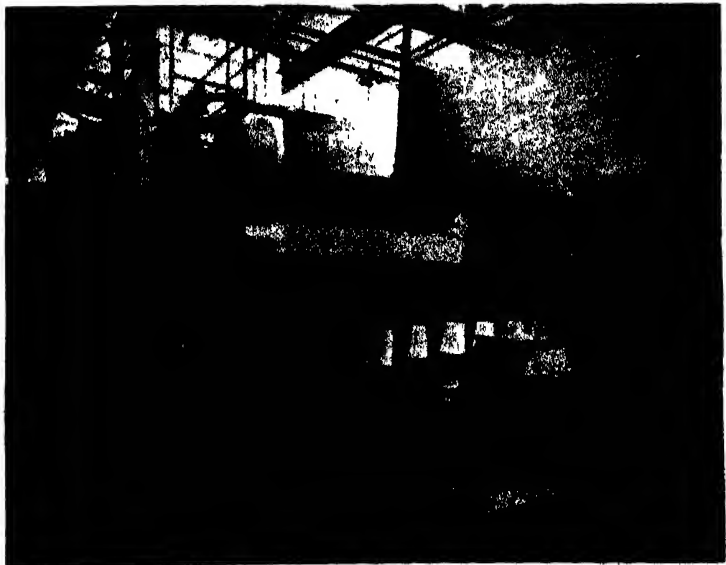
Cotton. Cotton manufacture is carried on in Lancashire to the south of the Ribble, and in southern Scotland. In Lanca-

shire, as has already been noted, the manufacture of cotton resulted from a fortunate combination of factors.

The industrial region of Lancashire is divided by the Rossendale forest, the southern section, around the headstreams and tributaries of the Mersey, containing the spinning towns of Bolton, Rochdale, Oldham, and Stockport; while in the northern section are the weaving centres of Blackburn, Preston, Accrington, and Burnley. From the coast to these towns communication is easy, and this advantage of easy transport has been further increased by the building of the Manchester Ship Canal.

The lower Clyde region, which derives its power from the Lanarkshire coal-field, also possesses cotton manufactures, the chief of which are situated in Glasgow and Paisley. In Nottingham, Leicester, and district the cotton industry is also carried on. The climate here being too dry for spinning, and the transport a more expensive item, spun cotton is obtained from Lancashire and made into such articles as cotton, lace, and hosiery.

Wool. Woollen manufactures are principally carried on in northern England and southern Scotland. The woollen industry is of earlier origin and more widespread distribution than that of cotton. The village of Worstead, near Norwich, stands as evidence of an industry which is now defunct there.



A TYRE FACTORY

Spinning fine cotton cord for the manufacture of tyres. Thousands of cords pass through the steel rolls of the calendar, and fine rubber compound is pressed into and around each cord to form a sheet of rubbered fabric with every yarn rubber-insulated from its neighbour

Photo: Dunlop Rubber Co.



MAKING STEEL

In the "Basic" process of steelmaking, limestone, steel scrap and iron ore are charged into the furnace, and lastly the molten iron. During that stage when the solid materials are being melted under the action of the gases, by which the furnace is heated, some of the slag which forms (mainly molten limestone), is run off and carries away with it a large amount of the unwanted phosphorus with which it has combined chemically. The photograph shows the slag being removed.

Photo Dorman, Long & Co. Ltd.

Elsewhere many towns developed specialized forms of woollen manufacture, examples of which are still in evidence. In the west of England, spinning has now ceased, but yarn is imported, and weaving and finishing of special types of cloth are carried on. Stroud, for example, is important for broadcloth, Dursley for woollens and carpets, Witney for blankets, Frome for serge, and Kidderminster for carpets.

In the Midlands, the same towns that are engaged in cotton, lace, and hosiery manufacture—Leicester and Nottingham—have woollen manufactures. The industry is a highly specialized one, and is chiefly concerned with the manufacture of hosiery. In the Tweed Valley of Scotland, the proximity of native wool from the uplands and water power from the Tweed has resulted in the development of woollen manufactures. The chief product, tweeds, comes from the towns of Galashiels, Selkirk, and Hawick.

The West Riding of Yorkshire contains more than 80 per cent of the woollen workers of England. The industry developed early because of the presence of sheep on the Pennines and running water in the mountain streams. When steam power was employed,

ample supplies of coal were available from the West Yorkshire coal-field, and the expansion of the trade necessitated the import of wool from Australia, New Zealand, South Africa, and the Argentine, mohair from Turkey, and alpaca wool from Peru. Such raw material was transported inland by means of the Humber, Aire, and Calder systems.

Within the region there is much specialization, and Bradford manufactures worsteds, Halifax is engaged in the lighter worsteds for rugs and carpets, Dewsbury in shoddy, and Huddersfield and Wakefield in general woollen goods. Leeds has important clothing and engineering works, and acts as the chief collecting and distributing centre for the whole of the region.

Other Textiles. The manufacture of silk, which is entirely dependent on imported raw

material, is carried on chiefly at Macclesfield, Congleton, Leek, Manchester, and London. In recent times the manufacture of artificial silk, which depends on such raw materials as wood pulp and short-stapled cotton, has also become of importance in these districts. Linen manufacture is to some extent carried on in Dundee and Kirkcaldy, in Scotland. In addition, hemp and jute manufactures have attached themselves to these linen centres.

Iron and Steel. Iron and steel manufactures are chiefly situated in the neighbourhood of the coal-fields. In Lanarkshire the iron and steel industry was established on local deposits of coal and iron ore, but this commodity is now imported. The Clyde waterway and railways provide good transport, and to-day the industry is centred on Coatbridge, Airdrie, Motherwell, and Wishaw. Engineering and the manufacture of all types of heavy machinery is carried on. In Cumberland coal is found along the west coast, between the ports of Maryport and Whitehaven, while high grade iron ore is found in the south, near Barrow-in-Furness. In this case the coal is moved from the coal-field to the iron ore region.

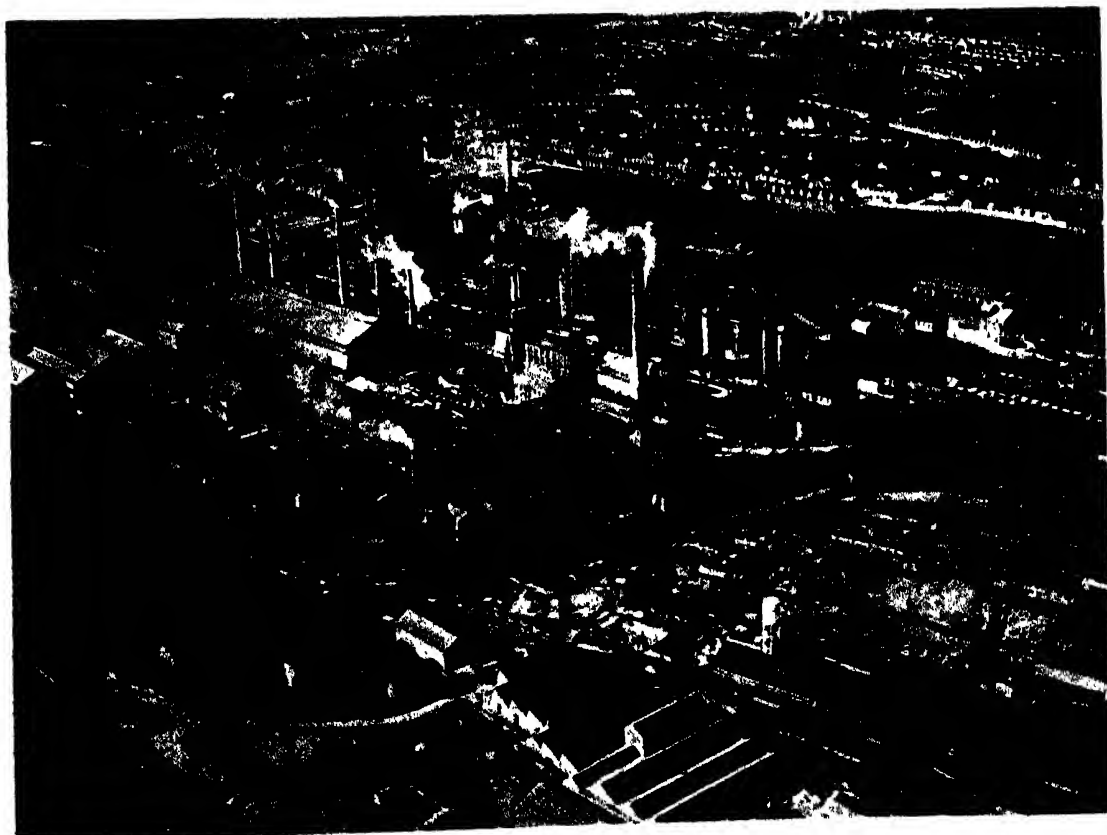
From earliest days much of the coal from

the Northumberland-Durham area has been exported, and the demand for ships to carry this coal was the origin of the establishment of shipbuilding near this coal-field. Local supplies of iron ore were found in conjunction with the coal, and when this local supply was exhausted, the ore was obtained from the Cleveland Hills, to the south of the Tees, or from abroad, when the coastal situation was a decided advantage. Along the lower Tees is a region engaged in the manufacture of iron and steel and various engineering products. Much of the iron and steel produced is sent to regions which are engaged in the manufacture of machinery. In addition, Darlington is engaged in locomotive construction, while Stockton also has heavy manufactures.

In southern Yorkshire Sheffield is outstanding for its cutlery industry. A very high grade of iron is necessary for the high-class goods produced by Sheffield, and pure bar iron is now imported from Spain and Sweden. Doncaster manufactures railway equipment, while

Derby produces motor-cars and aeroplane engines. Of the small coal-fields in the Midlands, the most important are those of Warwickshire and south Staffordshire. The iron and steel industry of these districts is now concerned with the manufacture of small valuable articles which demand a small supply of raw material but a great amount of labour. Coventry, situated to the south of the Warwickshire field, produces cars, cycles, motor-cycles, and wireless sets, while Birmingham, West Bromwich, Walsall, Wolverhampton, Dudley, and Wednesbury, manufacture similar products and also tools, electrical apparatus, and domestic appliances.

In South Wales the ports of Swansea, Newport, Cardiff, Llanelly, and Milford are also the centres of the iron and steel industry. With the iron and steel industry of Swansea and Llanelly has become associated the tin-plate industry. Originally much of the tin was brought from Cornwall, but to-day practically the whole of it comes from Malaya. Tin plates



STEEL WORKS NEAR CARDIFF

The Welsh ports are also centres of the iron and steel industry because the vessels that carry abroad coal from the Welsh pits return with iron ore
Photo: Fox



BOOT AND SHOE MANUFACTURE

Leather tanning and allied industries developed in many English market towns because hides and oak bark were obtainable from the country round. Now many hides are imported and leather manufacturing centres are tending to move nearer to the ports

Photo Mansfield & Sons, Ltd.

are exported from South Wales, and in addition there are manufactures of household utensils and containers for such commodities as food, tobacco, and petroleum.

Workable quantities of iron ore have been found in the limestone escarpments of Northamptonshire and Lincolnshire, and, although these areas are not on a coal-field, they have become iron-smelting regions. Coal is brought into the districts, especially from Barnsley, and new works for the production of pig iron

have developed at Frodingham, Scunthorpe, Kettering, and Corby.

In south-east England there are also industries for which the raw materials and power have to be transported from the iron and steel producing regions on the coal-fields. Peterborough, Ipswich, Lincoln, and Norwich, for instance, manufacture agricultural machinery, Swindon possesses a locomotive works, and the area round London has miscellaneous industries.

Shipbuilding. Shipbuilding is carried on chiefly on the Clyde, Wear, Tyne, and Tees, and at Barrow-in-Furness, Hartlepool, and Hull.

Chemical Industries. The existence of deposits of salt in Cheshire, the facilities of the Manchester Ship Canal for importing material, and the existence of a large market in Lancashire have led to the development of great chemical industries in south Lancashire and Cheshire. Runcorn, Warrington, and Widnes produce a great variety of chemicals, and in addition St. Helens manufactures glass-ware, while soap is made at Warrington and Port Sunlight.

Pottery. Pottery manufacture is concentrated on the north Staffordshire coal-field, in the five towns of Stoke, Newcastle-under-Lyne, Hanley, Burslem, and Longton. Most of the raw material largely used, kaolin, is now brought from Devon and Cornwall.

Leather. Many of the market towns of south-east England developed leather-tanning industries, and the manufacture of boots and shoes, as they had supplies of cattle hides and oak bark—the latter used for tanning. Of these Northampton, Leicester, and Norwich are the most important. At the present day, many hides are imported, and as a result London has become engaged in the production of leather goods.

This broad survey does not attempt to deal

exhaustively with "Industrial Britain," rather does it aim at explaining logically the development of industrial activity. Not always is it possible to determine the cause of the location of an industry—and in days where transport facilities have done much to overcome the difficulties of removing an activity from the coal-fields or the iron mines one is often hard put to explain existing conditions.

Many towns and cities to-day have established works of an industrial nature for no other reason than the aggregation of people in one spot—forming a town, and a consequent demand for goods, and the proximity to the market—for reasons in short, entirely other than those of an industrial nature. Edinburgh has established paper-mills to meet the printing requirements of the capital of Scotland and the principal University city. Dartford (Kent) has probably the most important paper mills in Great Britain—good communication by sea to the county of origin for raw materials and proximity to the vast multitudes of London being the determining factors. Ipswich and Norwich have very important engineering works in connection with agriculture. The central geographical situation in the most prosperous farming area in Great Britain has created this essential work rather for convenience than for any other reasons. Finally it



SHIPBUILDING

A giant liner on the stocks of a Buckenhead ship yard

Photo. Central

must be clearly understood that factories "attract" work, and the wide range of articles manufactured in some centres is evidence of the fact. In Ipswich farming machinery is the basic manufacture—but steam-rollers are made, and so are motor-cars and aeroplanes.

Transport and Trade of the British Isles

GOOD means of transportation are frequently as important as, or more important than, the production of commodities; soil, climate and labour may be available and suitable for a particular commodity, but if the means of conveyance to market, whether local, country, or world, are lacking, the production

of the particular commodity must frequently be abandoned.

Generally speaking, goods transport may be divided into two main heads: (1) that which conveys goods over long distances by land or sea, and (2) that which serves to feed these long distance carriers. For instance, the great



ROAD BUILDING

A corner on the road through the Pass of Glencoe, completed before the second World War

Photo: Scottish Travel Association

ocean liners, conveying miscellaneous cargoes to every part of the world, would be useless without their "feeders," for it is only by means of railways, motor road vehicles, canal and river barges, and coasting steamers, that their cargoes can be assembled at the loading ports, and distributed at their ports of discharge. So it is with railways, for these can only convey traffic from one station to another, and they are to a very large extent dependent on road transport and river and canal transport for the assembling of their consignments from the outlying districts at the loading stations, and for their distribution to the various consignees from the destination stations.

The oldest transport was along the paths from village to village, and, when man first began to use his domestic animals as beasts of burden, the paths became tracks wide enough for pack animals. Early British routes were the primitive footways and ridgeways of the scarplands, such as the Pilgrim's Way and the Ichnield Way.

Transport by Land. True roads originated only with the coming of the Romans, and these were constructed for military purposes. The Romans were great road engineers, and road-making was an essential feature in their policy for maintaining their hold over the countries they conquered. After the withdrawal of the

Romans the roads for the most part were allowed to go to ruin for a long time, but in the Norman period the routes to the most convenient south coast seaports were improved, but northward and westward communication was difficult and remained so for some centuries.

The real improvement in roads began in the late eighteenth and early nineteenth centuries, when Metcalfe, Telford, and McAdam began the system of paving roads with granite stones, well rolled down. John Metcalfe—a blind man, curiously enough—was the first great road engineer in England. In the early years of the nineteenth century new routes were planned and constructed, and many places hitherto isolated from each other were linked up and became important points on the system of communication. Vehicles also were improved, and the system of road transport developed rapidly, particularly with the coming of the motor vehicle. Many roads that were falling into disuse have once again become arteries of traffic.

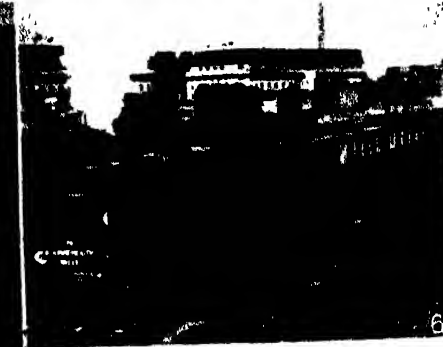
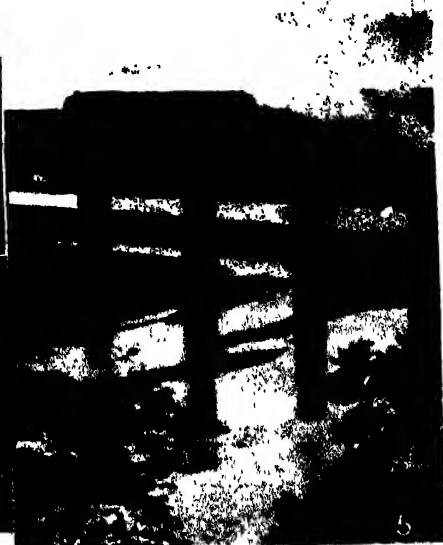
In 1923 the Ministry of Transport published a scheme for road development, the roads of England being divided into zones radiating from London, and the roads of Scotland into zones radiating from Edinburgh. The roads were classified and numbered, and rapidly improved at great expense to meet the needs of modern methods of transport. From 1st April, 1937, the full responsibility for the maintenance and improvement of some 4500 miles of trunk roads was transferred from the County Councils to the Ministry of Transport and a further 3700 miles were similarly transferred on 1st April, 1946. The cost of maintenance, improvement, and new construction



NEW TRADE ROUTES

Eastern Avenue, near Ilford, one of the arterial roads with divided carriage-ways

Photo: Fox



RAILWAY DEVELOPMENT

1. A complete train of new British Railways standard coaching stock. 2. A 72 ton unit of a forging press on the first part of its journey from Glasgow to Terni in Italy before the Second World War, on one of the 110-150 ton trucks specially made to carry this type of machinery. 3. The Atlantic Coast Express at Monken Bank. 4. Freight trains on British Railways. 5. The railway viaduct at Berwick-upon-Tweed. 6. The "Bournemouth Express" leaving Waterloo Station. 7. The Harwich-Zeebrugge train ferry terminal at Harwich.

Photos: British Railways

just before the 1914-18 War was not quite £19,000,000 annually, whereas by 1950 it was running at the rate of £75,000,000.

Railways. Transport by rail is Britain's chief method of inland transport, though road transport by motor has become of increasing importance for goods traffic. The difficulty of dragging coal from the pit over bad roads to river or canal led to the evolution of the railway. The evolution of the rail from wood to steel, the motive power from men or horses to steam and electricity and of the locomotive

longest slopes not steeper than 1 in 80 on the two sides; the top of the pass can then be pierced by a tunnel. Sometimes the valley-lines on the two sides of ridges or scarps do not correspond but alternate. The problem is then solved either by cutting or tunnelling, or by utilizing a third basin as on the main line of the London Midland Region system between Leeds and Carlisle, which ascends the Valley of the Aire and deviates into that of the Ribble in order to get into the Eden Valley. Where the coast consists of a broken scarp or line of cliffs, the main line keeps away from it, and important towns on the sea are reached by branches, as on the Southern Region east of Exeter, or the main line of the North-Eastern Region between Darlington and Berwick-upon-Tweed. Where the scarp is fringed by a coastal plain, the main line traverses the plain and throws out branches to inland points, as on the Western Region through Cardiff and Swansea, which has branches into the parallel valleys of the South Wales coal-field. Whenever plains are separated by ridges and scarps, the connecting routes make for the gaps.

Great changes have taken place in the administration of railways in Great Britain in the past thirty years. In 1921 the Railways Act amalgamated into

four main companies the 121 operating companies then constituting the principal systems. In 1948 these four companies were transferred to State ownership under the British Transport Commission, which had been set up by the Transport Act, 1947, and in their stead six railway regions were created: the London Midland Region (corresponding to the system of the former London, Midland and Scottish Company in England and Wales); the Western Region (corresponding to the system of the former Great Western Railway); the Southern Region (corresponding to the system of the former Southern Railway); the Eastern Region (corresponding to the Southern Area of the former London and North Eastern Railway); the North Eastern Region (corresponding to the North Eastern Area of the former London and North Eastern Railway); and the Scottish Region (corresponding to the Scottish systems



THE LIVERPOOL AND MANCHESTER RAILWAY

A contemporary drawing of the opening on 15th September, 1825, with the Moorish Arch at Edgehill as it appeared on that day

Photo British Railways

itself from the early toothed-wheel type to the modern streamlined express are all steps in the evolution of this type of transport. Britain's industrial development gained many years' start on the rest of the world by the invention of the steam engine.

The relief of the country has often influenced railway construction. Many small slopes are avoided by cuttings or embankments, and the general level of the railway was often decided by the height at which rivers or main roads must be crossed by bridges. When ascending a valley to a pass the railway keeps some distance from the river and road at the bottom, and climbs slowly along the side of the valley; for, by beginning its steep slope sooner than the road does, it will reach higher up the valley before a tunnel is necessary. The most suitable pass is not that which has a nearly uniform slope as for a road, but that which provides the



The rivers of the world were the first lines of transport and of trade; to-day use of the world's waterways extends beyond the land guarded waters of the lakes and rivers to the high seas, on which the regular shipping routes are now almost as well-known and signposted as the main roads ashore. The thickness of the lines on the above map gives some indication of the volume of traffic on the principal sea routes of the British Isles.

ALTERNATIVE PLACE NAME SPELLINGS

Antwerp = Anvers; Copenhagen = Kjobenhavn; Hull = Kingston-upon-Hull; Naples = Napoli; Rome = Roma

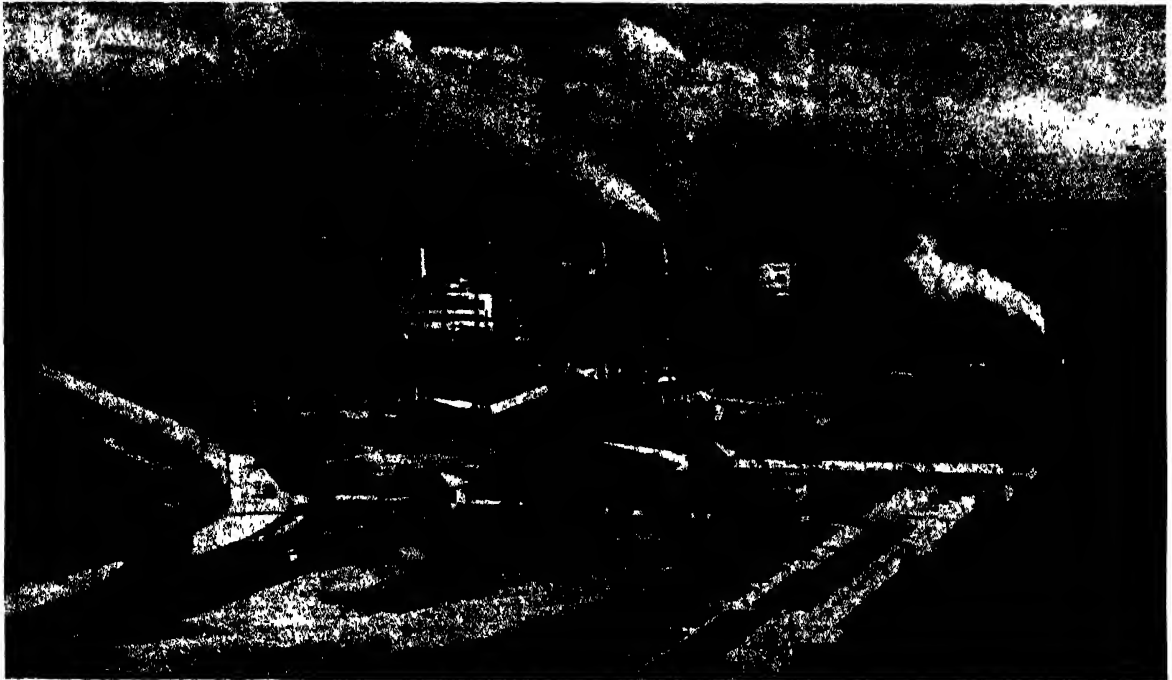
of the former London, Midland and Scottish and London and North Eastern Railways). The whole system is now known as British Railways.

The standard British goods wagon holds ten or twelve tons, compared with the fifty-ton wagon of the United States of America. British railways excel, however, in provision for exceptional traffic, from milk in glass-lined tanks to special wagons for motor bodies, bananas, and other commodities.

Transport by Water. In all ages water

country. Their importance in transport is by no means negligible, though the multiplication of railway lines, improved roads, and the increased size of ocean-going vessels have rendered them relatively less useful than they were. Commercially the most important rivers are the Thames, the Mersey, the Yorkshire Ouse, the Severn, the Tyne, the Wear, the Tees, and the Trent. There are 3825 miles of inland waterways in Great Britain.

Canals were constructed to improve navigation on rivers, to avoid obstacles, to link



SOUTHAMPTON DOCKS

Ocean-going liners berthed at the quayside, whilst the *Queen Mary* is being towed by tugs into the graving dock shown in the foreground

Photo: British Railways

has played its part in providing trade routes. The earliest civilizations developed in fertile river valleys, using the navigable rivers as means of transport. Before the days of railways and serviceable roads, the rivers of Great Britain were the chief means of transport, and most of the old towns lie on river sites.

Several factors determine whether rivers can be used as trade routes. Among these may be mentioned the productivity of the regions through which they flow, convenient depth of water, and absence of waterfalls in their courses. To-day rivers serve as the means of conveying goods to and from the ports of the

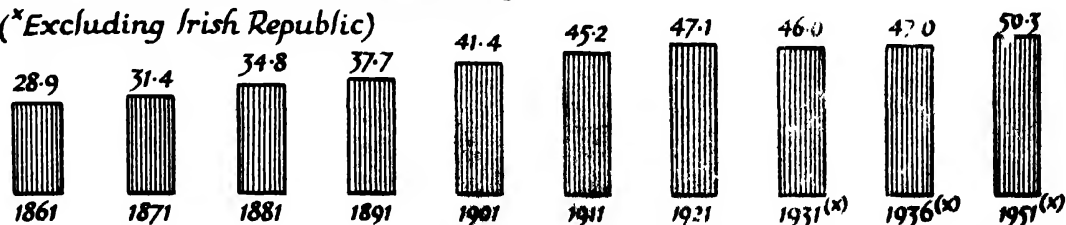
rivers, and to provide waterways where there are no rivers. Their chief advantage is cheapness for the transport of heavy goods, and their disadvantage is slowness. Canal construction was a feature of the early days of manufacturing activity in the eighteenth century, and some canals are still in active use.

It was between 1760 and 1830 that practically the whole of the extensive system of canals of Great Britain, with the exception of the Manchester Ship Canal and a few short lengths of ordinary barge canals, was constructed. It was not until the invention of locks (probably in Italy) that inland navigation throughout a hilly country like England became

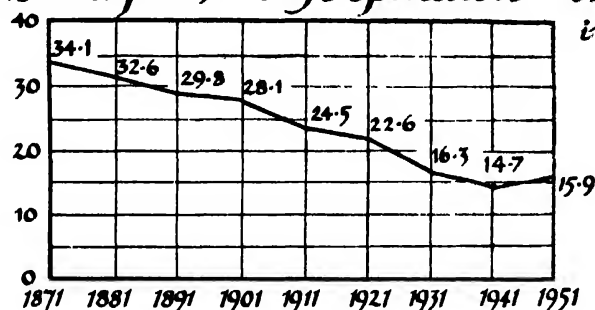
UNITED KINGDOM

POPULATION in millions

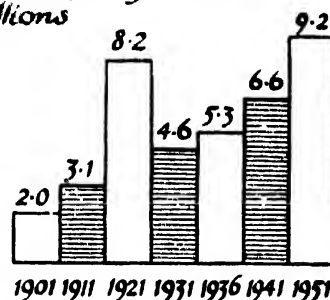
(*Excluding Irish Republic)



Births per 1,000 of Population

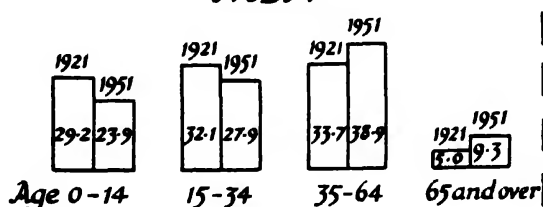


Membership of Trade Unions in millions

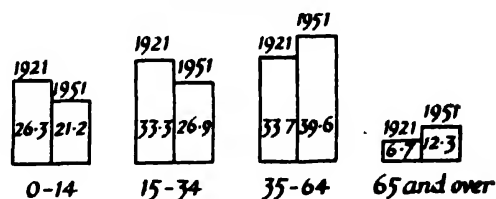


AGE DISTRIBUTION in percentages of totals

MEN



WOMEN



DISTRIBUTION BY OCCUPATION in percentages of total U.K. working population

WORKING POPULATION in millions		INDUSTRY	TRADE	TRANSPORT	MINING & AGRICULTURE QUARRYING & FISHING		MISC.
1921	19.1	40.1	16.8	8.0	7.1	7.3	20.7
1931	21.0	37.8	11.0	8.7	5.3	6.6	30.6
1951	23.3	44.9	11.3	7.6	3.7	5.0	27.5



THE MANCHESTER SHIP CANAL.

Above—A view of the waterway near Warrington, where it is crossed by the electric power transmission lines and where the railway runs beside it. *Below*—Eastham Locks, the entrance to the canal from the Mersey estuary, showing numerous tugs and two ocean-going vessels in the canal.

Photos: British Electrical Development Association; Lancashire Industrial Development Council

possible. The first modern canal, with various levels to which barges passed through locks, was the Aire and Calder Navigation in Yorkshire. The Bridgewater Canal, linking Manchester by way of Runcorn to the sea, was the work of that great canal engineer, Brindley, and the scheme included the engineering feat of the bridging of the River Irwell.

It is not necessary to detail all the canals constructed; it suffices to say that the Rivers Mersey, Thames, Severn, and Trent were all joined, and a network of canals was constructed

in Birmingham and the south Staffordshire Black Country. In Scotland, in addition to the Caledonian and Crinan Canals, both intended to shorten the voyages of ocean-going vessels, the Forth and Clyde Canal was constructed.

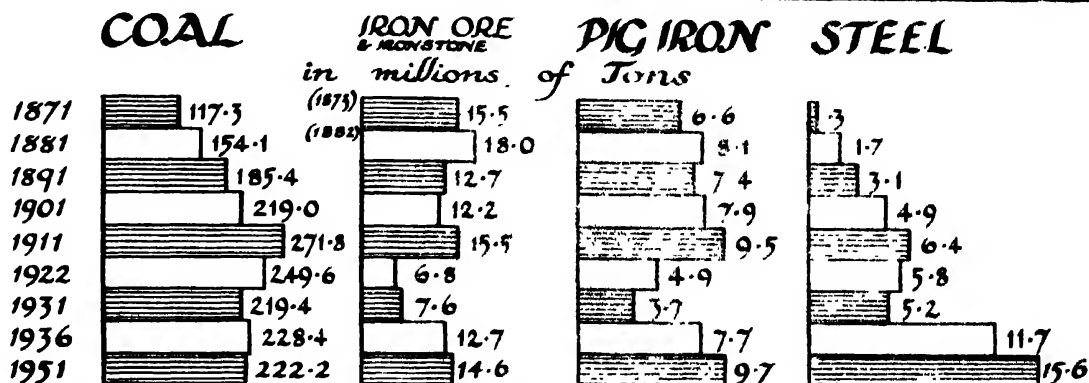
Canals gave to commerce easy means of transport in place of the bad roads, and thus not only cheapened the cost of transport but widened its area and stimulated it considerably. They prospered exceedingly, and this led to much speculation, and finally—in the early part of the nineteenth century—the monopoly enjoyed resulted in inertia and lack of appreciation of the growing requirements of commerce, and so the use of canals declined. Some of them still continue to carry large volumes of traffic, but on the whole canal transport now takes a comparatively small part in industry.

Many attempts have been made to develop canal transport. In 1929, for instance, the five separate undertakings owning portions of the canal route from London to Birmingham united to form the Grand Union Canal Company to control the longest canal in Great Britain (280 miles) and carried out an extensive series of improvements. More recently, in 1948, some 2000 miles of inland waterways were taken over by the Docks and Inland Waterways Executive of the British Trans-

port Commission as a result of the Transport Act, 1947, and organized into five groups (the North East Division, the North West Division, the South East Division, the South West Division, and Scottish Canals). The Bridgewater Canal, the Manchester Ship Canal and the Thames Conservancy were not included in these arrangements, however. The Transport Commission waterways carried over 12 million tons of traffic during 1951, nearly one-half of the total being coal and fuel.

Special mention must be made of the

UNITED KINGDOM HEAVY INDUSTRY, TEXTILES & SHIPPING



DISTRIBUTION OF INDUSTRIES

COAL  IRON I

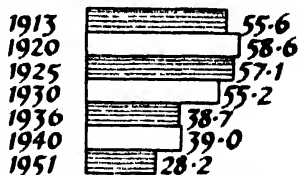
COTTON & WOOLLEN 

SHIPBUILDING 



RAW COTTON SPINNING SPINDLES

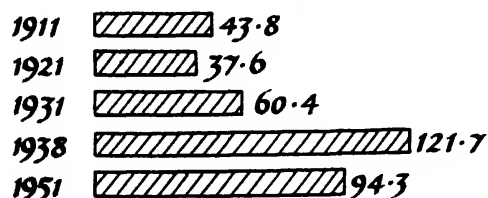
Number in millions



from International Federation of Master Cotton Spinners & Manufacturers Assocn: International Cotton Statistics.

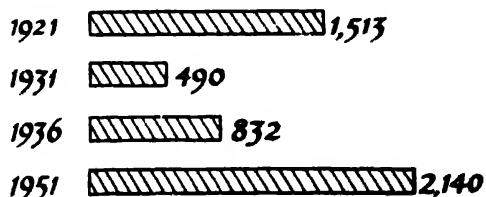
SHIPPING

*SHIPS ENTERED IN FOREIGN TRADE
in millions of Net Tons*



SHIPBUILDING

in thousands of Net Tons



Manchester Ship Canal, that great undertaking which made Manchester a leading port of the United Kingdom. It runs from Eastham through Ellesmere Port, Runcorn, and Warrington, to Manchester, and is thirty-five and a half miles in length. The general excavated depth of the waterway is twenty-eight feet. The water for the upper sections is supplied by

Kingdom to any other. The Isle of Man is treated as part of the United Kingdom for customs purposes and ships trading between this country and the Isle of Man are coasting ships. The Channel Islands, however, are regarded as "parts beyond the seas."

Round the coasts of Great Britain are various routes between different trading centres, on



THE FISHING INDUSTRY

A heavy landing of herrings at Yarmouth. The steam drifters are packed tightly to the quay which is clogged with the baskets or "crans" into which the fish is unloaded.

Photo: Associated Press

the Rivers Irwell, Mersey, and Bollin, while the lower section is tidal, though it contains the River Weaver, which joins the canal west of Runcorn. During a recent year over 3500 vessels entered the waterway, and there is no doubt that the canal has been the greatest factor in raising Manchester to its present prosperity. During 1951 the canal carried nearly 11 million tons of traffic. Before its construction the trade of Manchester and district was dependent on the ports of Liverpool and Hull.

Coastal Steamers. Coasting trade includes all trade by sea from any one port of the United

Kingdom to any other. The Isle of Man is treated as part of the United Kingdom for customs purposes and ships trading between this country and the Isle of Man are coasting ships. The Channel Islands, however, are regarded as "parts beyond the seas."

Round the coasts of Great Britain are various routes between different trading centres, on

which small vessels, carrying goods and passengers, ply a regular trade. In addition to these vessels, there are frequent cargoes passing from one port to another which, owing to their nature, or to the fact that there is no regular steamer running between the two ports in question, require to be carried by tramp steamer. These cargoes are usually bulk cargoes, such as coal, grain, potatoes, stone, and clay.

From every important British port there are regular sailings by coasting vessels, and to and from London alone there are seventy ports in

UNITED KINGDOM

FOREIGN TRADE & National Income & Revenue

FOREIGN TRADE 1951

BY GROUPS OF COMMODITIES in £ Million

IMPORTS

1,294.1

1,711.5

882.6

15.6

3,903.8



Food Drink & Tobacco

Raw Materials

Manufactured Goods

Miscellaneous

Total

EXPORTS

161.0

95.1

2,233.1

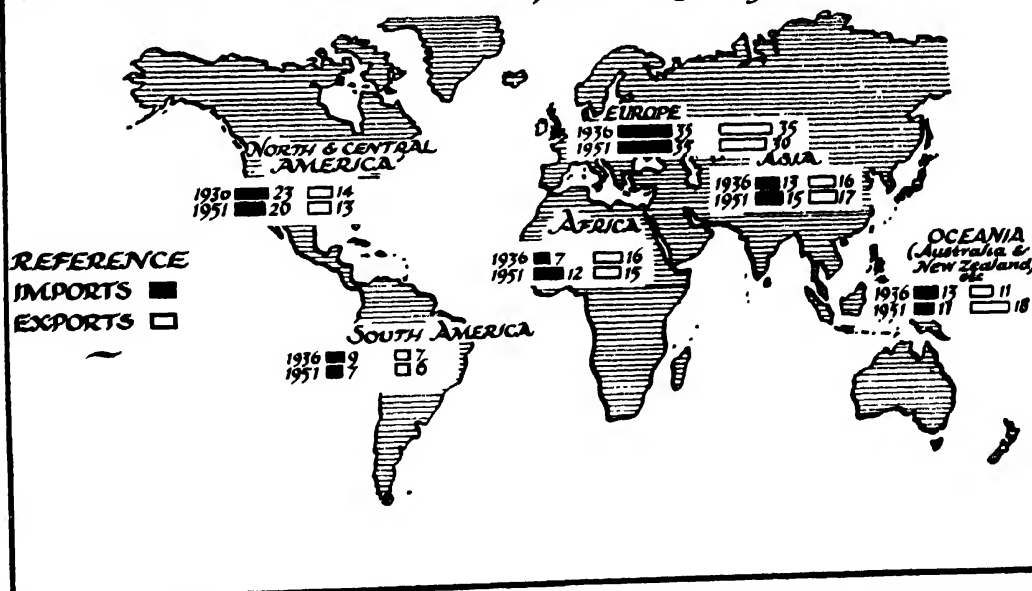
50.4

2,579.6



RE-EXPORTS Total 127.0

BY CONTINENTS in percentages of Totals given.



BY PRINCIPAL COUNTRIES in 1951 as percentages of Totals

IMPORTS				EXPORTS			
U.S.A.	9.7	India & Pakistan	5.0	Australia	12.6	India & Pakistan	6.2
Canada	6.7	New Zealand	4.2	South Africa	6.4	Canada	5.3
Australia	6.5					U.S.A.	5.2

National Income, Revenue and Expenditure for 1951 in £ Million

Gross National Income	Revenue	Expenditure
12,537	5,543	4,856

adequate, economical and properly integrated system of public inland transport and port facilities within Great Britain for passengers and goods."

Transport facilities have had considerable bearing on the growth of towns. A good example of the growth of a town at the crossing of a number of transport routes is Birmingham, with road, canal, and railway routes radiating from it into various river basins. Crewe is an example of a town at the meeting of a number of railway routes.

Recent developments in road and in air transport are also having their effect upon the growth of towns, instances of which are seen in the rise of factories along the great trunk roads, with the consequent building of "estates" in close proximity to house the employees of those factories. There are many examples along the new main routes out of London.

Trade and Industry. Great Britain is primarily concerned with the export of manufactured goods in exchange for agricultural produce, although agriculture is still very important. Her trade is enormous and diverse, but the chief imports include cereals, meat, dairy produce, tropical products, timber, raw cotton, wool, and petroleum; while the exports consist largely of coal, manufactured textiles, machinery, and chemicals. In addition, British ships carry goods for other nations, and goods are often brought to British ports, especially London, for trans-shipment, and thus there is, in addition to normal traffic, a great *entrepôt* trade.

Imports and Exports. The imports to Great Britain consist partly of goods intended for consumption within the country itself, and partly of commodities which are imported in



THE TIMBER TRADE
Unloading Scandinavian timber at the Hull Docks
Photo: Hull Corporation

order to be exported again. Roughly, the imports may be divided into food, 40 per cent; raw materials, 40 per cent; and manufactured goods 20 per cent. The chief imports come from Canada, U.S.A., Australia, India and Pakistan, New Zealand, British West Africa, South Africa, Argentine, Denmark, and France; while our chief exports are to Australia, India and Pakistan, Union of South Africa, Canada, U.S.A., Netherlands, and Denmark. From the periodical returns of the Board of Trade it will be seen that the chief imports are (1) those coming under the heading of "Food and Drink" (grain, and flour, meat, etc.), (2) wood and timber, (3) wool and woollen rags, (4) raw cotton and cotton waste, (5) oils, fats, resins, etc., and (6) non-ferrous metals and manufactures; while the chief exports of domestic origin are (1) cotton goods, (2) iron and steel manufactures, (3) machinery, (4) coal, (5) woollen and worsted yarns and manufactures, and (6) vehicles, including ships and aircraft.

ENGLAND—SOUTH AND EAST

THE outline plan of the southern and eastern counties was apparent from the general survey of Great Britain's structure made in Part Three, Chapter One. With the exception of Devon and Cornwall, the whole of the country lying to the south and east of a line drawn from the Severn estuary to the Humber is composed of relatively recent rocks, chiefly clays, chalks, sandstones and limestones, built up under the sea in prehistoric times and more recently denuded by erosion into the succession of hill and dale which is the characteristic feature of all southern England.

The Cities. The commercial and industrial centre of the whole area is London, situated at the point nearest to the sea where the principal river was in early times fordable and can

now be bridged. Ever since the Roman Watling Street was made from the port of entry at Dover through Canterbury and Rochester to the ford over the Thames at London and thence northward, it has been the centre of communication with all parts of the country. That explains at once its medieval importance and its modern urban development. The fertile soil of the Thames basin and of the alluvial land, allied with low rainfall which characterizes East Anglia, has further contributed to its growth.

Though London is the hub from which the lines of commerce radiate in southern England, the ports of Southampton and Bristol have maintained their medieval importance to the present day. Moreover there are a score or





A TYPICAL ENGLISH SHEEP SALE

A view of the market at Bridgwater, Somerset. The auctioneer can be seen (with stick) on the top right-hand side.

Photo: Reece Winstone

more of flourishing provincial towns which are local centres of distribution, market towns, and to a limited extent manufacturing centres where goods are made for the local market, including agricultural machinery for use on neighbouring farms. Lincoln, Norwich, and Ipswich in the east, Exeter and Plymouth in the west are illustrative examples. In addition, there are many old towns, some of them cathedral cities, which continue to prosper as centres of commerce as well as culture. Canterbury, Salisbury, Gloucester, and Bedford are examples of this type. To these must be added the university cities of Oxford and Cambridge, the former of which has now become an important commercial and industrial centre, and a number of towns along the coast, some of which (such as Eastbourne or Bognor) are holiday resorts purely and simply, but others (like Brighton, Penzance, and Bournemouth) are of commercial if not industrial importance, and others again (such as Harwich or Dover) are important ports in

continental trade as well as catering largely for holiday-makers.

The main features of the relief have been already indicated—the long lines of chalk downs which radiate from the central plateau of Salisbury Plain; the diversity of the Weald in the south-eastern counties—Kent, Surrey, and Sussex; the level lands reclaimed from the sea in Kent and the Fen area; the limestone belt extending from Portland Bill to the Humber and overlooking the Midland Plain from the western escarpment; and finally, the older rocks of Devon and Cornwall, counties which are geologically and racially more akin to Wales than the rest of England.

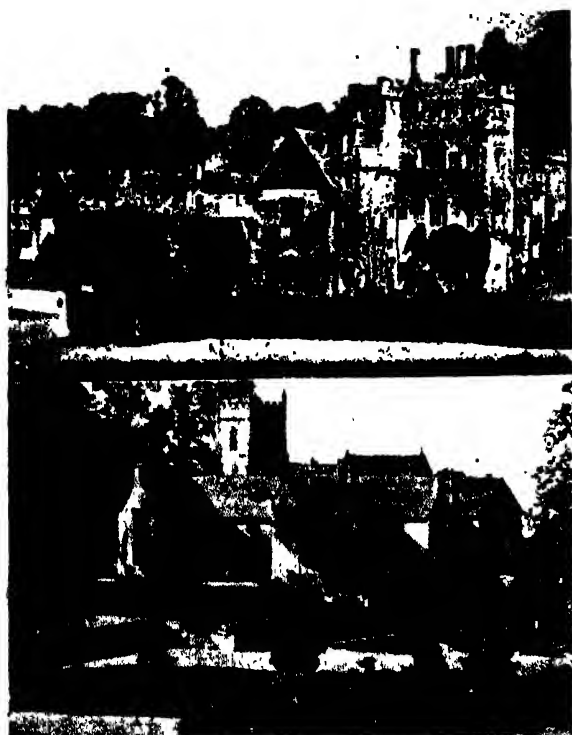
Of the rivers, only the Thames, the Severn, and its tributary the Avon, the Humber and the Ouse, are navigable for any but the smallest vessels, and though it was once hoped by means of the Thames and Severn Canal to afford an outlet to the western seas for south-central England, the scheme never reaped the success for which its advocates hoped. Passenger

transport almost exclusively, and goods transport largely, is confined to rail and road (see "Transport and Trade" on page 483). Few villages, even in the most remote districts, are more than two or three miles from the nearest bus route, whilst so intricate is the network of railways over all southern England that there are few points on the map which can be chosen

on a cycle of events which began 2000 years ago and has been determined by the natural configuration of the land and the trends of migration prior to the Norman Conquest. The historical background of East Anglia and Kent representing south-east England on the one hand, and Cornwall representing south-west England on the other, makes this clear.

Until the Fens were drained, East Anglia was virtually an island surrounded by the Wash, the North Sea, and the marshes which fringed the Thames estuary on three sides, and by the impenetrable morass of the Fens on the fourth. Thus communication between East Anglia and the rest of England was negligible. Again, the district lay nearest to the continent of Europe and consequently bore the brunt of repeated invasions between the time when the Roman legionaries were withdrawn in the fourth century and the advent of a settled government under the Norman kings. Angles, Saxons, and Norsemen in turn sailed up the many creeks and estuaries of Essex and Suffolk, laying waste the country and subduing the civilized peoples of Roman Britain. Thus no permanent influence was established and the population became a mixed one of Norse and Teutonic descent with comparatively little admixture of the Romano-British strains which largely determined the civilization of more central parts of England, where the incursion of the Anglo-Saxon races was longer delayed and less devastating in its results.

Devon and Cornwall, by contrast, were the last refuge of indigenous peoples fleeing before the conquering invaders, protected until medieval times by the forest which stretched from the Bristol Channel across mid-Somerset. Both counties were almost untouched by Teutonic or Norse influence until after the Norman Conquest. In the folk lore of Cornwall there are tales of giants and pigmies which have been thought to represent the different stages of Stone Age culture which here, as in Scotland, must have persisted much longer than in any other part of the country. Certainly the tradition is borne out by the abnormally large stature of some old Cornish families and the abnormally short stature of others. Whatever truth there may be in thus deriving part of the Cornish stock from prehistoric times, it is at least certain that the Romans never penetrated farther west than Somerset, except perhaps for the establishment of scattered trading stations. The Saxon tribes, similarly, did not succeed in



COTSWOLD MANOR HOUSES

Above: Compton Wynyates. Below: Horton Court

Photos: Len Gurl

more than ten miles distant from the nearest railway.

Thus everything—even contours, fertile soil, absence of moorland and easy transport—has combined to enhance the productivity of the countryside and to increase the wealth of the big cities and the prosperity of the market towns. Even though much of the land which at the end of the last century was under plough has been allowed to revert to pasture, few farms are untenanted, and a much higher yield of corn could be achieved at short notice.

The People. Great as is the diversity of scenery, the diversity of people is even more striking. In an age of growing uniformity the difference in outlook between the countrymen of East Anglia and those of Cornwall is apparent to the most casual observer and depends



VILLAGE ARCHITECTURE OF MEDIEVAL ENGLAND

1. Gabled and stone-built cottages at Stow-on-the-Wold in the limestone country
2. The half-timbered "Mermaid Inn" at Rye.
3. The windmill and Elizabethan almshouses of Thaxted.
4. Typical whitewashed cottages of Luccombe, Somerset.
5. A Tudor house at Penshurst, Kent.
6. Sennen Cove, typical of Cornish fishing villages

Photos: H. Courtney Brysson; P. J. Green; Charles Mouque; F. Reed, W. Rose; Fox

overcoming the resistance of the native peoples, whilst, even in the last years of the Saxon Period, only Saxon thanes were found in Devon and Cornwall, the bulk of the population remaining, as it had done in pre-Roman days, with the admixture of Celtic influence from Ireland.

Thus the historic background of south-

eastern and south-western England is entirely different. It would be surprising if those differences were not reflected in the temper and outlook of the people to-day.

The whole district lends itself to division into eight natural districts within which there is a certain unity of scenic character and a certain similarity of rural life and outlook.

East Anglia and Hertfordshire

THIS area embraces everything that lies to the south-east of the line of chalk hills connecting the Chilterns with the chalk cliffs at Hunstanton in Norfolk and is bounded on the south by the Valley of the Thames. Commencing from the outskirts of Greater London there is a markedly homogeneous character in the four counties—a wonderfully fertile expanse of countryside, gently undulating, but rarely becoming hilly, well wooded and particularly generous in its hedgerow timber, admirably suited alike to the plough and to pasture.

Only in Norfolk is there a considerable extent of unproductive land—the sandy warrens of Breckland towards Brandon and Thetford—a district which takes its name from the brecks or fields into which the light soil was divided towards the end of the eighteenth and beginning of the nineteenth centuries, and which in many cases have now been allowed to revert to their former barren aspect.

In all three counties wheat remains the principal crop, though, on the lighter soils of Norfolk, oats and barley are extensively cultivated. In southern Essex proximity to the London market has proved an additional incentive to intensive cultivation. Recent years have witnessed an increase in the area devoted to market-gardens and also an increase in the number of chicken farms; but for the most part the country is divided into large or moderate-sized farms which carry on a mixed production of corn crops, dairy produce, and stock.

Farms and Villages. The farmhouses are an integral part of the country scene, many of them built in the seventeenth and eighteenth centuries—timber-framed buildings with vast black-timbered barns standing well apart from the villages, which are distinguished by timber-

built or colour-washed cottages with thatched roofs—a picturesque survival which, owing to the absence of local brickfields and the abundance of material for thatching, is being perpetuated in many of the most recent labourers' cottages. Along the north coast of Norfolk, where a wide belt of saltings intersected by many winding streams separates the mainland from the sea, there is a group of stone-built villages, including Blakeney and Stiffkey, which are in direct contrast with the rest of East Anglian architecture. A few of the villages, such as Finchingfield in Essex and Lavenham in Suffolk, are counted among the most beautiful of English villages, the former owing to its perfect composition, the latter to the ageless beauty of its timber-framed houses.

The magnificent Gothic churches of Essex and Suffolk also lend distinction to many of the smaller towns which have not grown beyond their nineteenth century limits. Thaxted and Saffron Walden in Essex, Clare and Stowmarket in Suffolk, are only four of a very large number in which this characteristic is most noticeable. Above all, East Anglia remains a countryman's country, in which village life continues to revolve round the church and the manor house, and the bulk of the population is engaged in agriculture. Even the centres of urban population, such as Colchester, Ipswich, Bury St. Edmunds, and Norwich, are primarily market centres. Where industries have developed, they are concerned chiefly with the manufacture of foodstuffs and agricultural machinery.

The most extensive woodlands occur in the district formerly covered by the medieval forest of Waltham. Of this, only Epping Forest, Hainault Forest, and the woodlands to the south of Hertford are still afforested in the strict sense of the term, but the well-wooded



BRITISH WILD FLOWERS

- 1 Sweet Briar (*Rosa rubiginosa*) 2 Honeysuckle (*Lonicera periclymenum*) 3 Dwarf Thistle (*Cirsium arvense*) 4 Harebell (*Gampanula rotundifolia*) 5 Pimpernel (*Angallis arvensis*) 6 Cornflower or Corn Blue-bottle (*Centaurea cyanus*) 7 Budweed (*Calyptegia sepium*) 8 Meadow Crane's-bill (*Geranium pratense*) 9 Yellow Horned Poppy (*Glaucium luteum*) 10 Succory or Chicory (*Cichorium intybus*)



OLD TOWNS OF THE SOUTH-EAST COUNTIES

1. A Tudor house at Godstone, Surrey. 2. Half-timbered seventeenth-century residences at East Grinstead, Sussex. 3. The harbour and old fishing village at Folkestone, Kent

Photos: W. Gardner; British Railways

nature of the intervening country is evidence enough of the forest's former extent. Here most of the English trees flourish, particularly the oak, the chestnut, and the hornbeam, which elsewhere has virtually disappeared from the English countryside. The beechwoods around High Beech rival the magnificence of the more famous Chiltern beechwoods. For the rest, apart from hedgerow timber, the woodlands occur mostly in the form of small plantations or coppices.

An exception must be made of the sandy country to the north of Ipswich and of the Breckland district, which were formerly conspicuous for their scattered clumps of coniferous trees and have since been planted extensively with Douglas firs in accordance with the scheme of the Forestry Commission. Near the Thames estuary there are many thousands of scattered

elm trees which lend this almost level expanse of land an unusual distinction. In central Essex and Suffolk the willow is the most conspicuous tree. Lastly, the poplars which abound along the Valley of the Stour between Essex and Suffolk have been immortalized in many of Constable's finest paintings.

The Coast. The eastern estuaries of Essex are ideal for small sailing craft, so that places like Burnham-on-Crouch and Bradwell on the Blackwater have become famous for yachting, just as 1500 years ago they gave safe anchorage for the marauding Norse longships. Otherwise, apart from the sandy beach where Clacton, Walton, and Frinton have become flourishing holiday and residential centres, and the Thames estuary, where Southend is London's dormitory as well as a health resort, the Essex coast is inaccessible, extensive mud flats dividing the

sea wall from the open sea. Farther north, for the whole length of the Suffolk and Norfolk coast, it is surprising that the development of the few health resorts that exist has been on a so much smaller scale than on the south coast. Lowestoft and Yarmouth are both fishing towns, in which fishing remains at least as important an industry as catering for holiday-makers. Southwold and Aldeburgh are as quiet as any seaside towns of the extreme west. Cromer, Sheringham and Hunstanton are all relatively small towns.

One feature of the coast compels attention. Every year sees some fresh encroachment of the sea. Whole villages have gone down cliff within living memory. The Moot Hall of Aldeburgh, which used to be the centre of the town, now stands on the Promenade, and the whole city of Dunwich, once a cathedral See, has disappeared.

A few miles inland from Yarmouth Broadland is another characteristic feature of the scenery. Here the Bure, the Yare, and the Waveney broaden into wide, reed-fringed lakes which have recently become waterways for innumerable pleasure craft during the summer months. The combination of the sails of these craft with the innumerable windmills which pump the water along the channels cut to drain the land makes a spectacle as effective as it is unusual. At one point only a low belt of natural sand dunes divides Broadland from the sea. Here, again, a combination of high tides and a north-easterly gale has frequently resulted in the sea demolishing the sand dunes and covering temporarily many square miles of the countryside.

A particularly serious incursion took place early in 1953, when practically the whole of the East Coast area from the Thames estuary to Lincolnshire was affected. Altogether over 300 people lost their lives and more than 30,000 were rendered homeless. In Norfolk a tidal wave seven feet high swept through King's Lynn, and the sea swept over the protective walls at Hunstanton; in Suffolk severe damage was suffered at Felixstowe and Southwold; and in Essex almost the whole of Canvey Island, a popular bungalow resort in the Thames estuary, was submerged by the floods. The total damage was estimated at some £50,000,000, excluding the cost of permanent repairs and improvements to the sea defences.

Local and Rural Industries. Many local and rural industries are pursued. Around

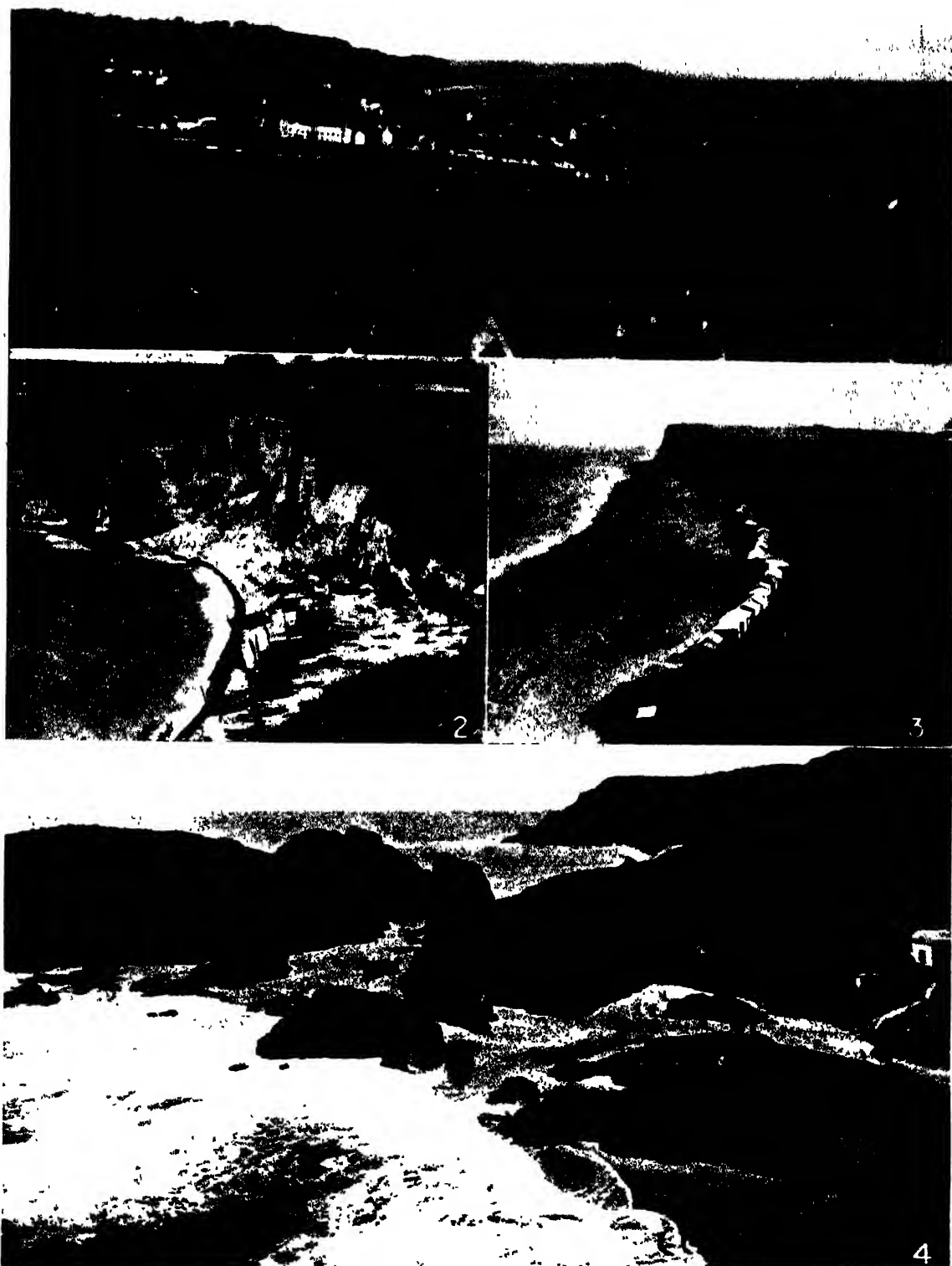
Witham the willows are cut and made into cricket bats by local craftsmen. The oyster beds of Brightlingsea give employment to many, and this industry's fame is increased by the traditional oyster feast at Colchester. In Suffolk, Brandon is noted for two unusual industries, both depending on the proximity of the sandy warrens of Breckland. The rabbits which abound are snared in vast numbers. Dressing their skins is an industry just as important to-day as 100 years ago.

So, too, the flint mines which have been worked since prehistoric days provide material for the flint-napping of Brandon—the only place in Britain where this occupation is carried on. Some of the flints are made into replicas of their prehistoric counterparts and sold as curios to visitors, but the majority are made into gun flints exported to many parts of the world and particularly to Africa. Suffolk, too, has many fishing villages, all the catch being sold for local consumption. It is in these coastal villages that the tall, fair-haired Norsemen are most clearly observed, and Scandinavian surnames are still not infrequent, whereas, farther inland, the Anglo-Saxon stock is more dominant.

Although the weaving industry, which gave Norfolk its medieval prosperity, and was introduced by the Flemings and Huguenots, has entirely disappeared, the village of Worstead continues to give its name to the most famous of Norfolk cloths. The herring fisheries of Yarmouth are as famous as the oyster beds of Colchester. In addition, the fisheries have been the cause of the establishment of shipbuilding yards, where herring drifters are built, and attract many Scottish fishing boats to the port, the season lasting from September to December. In this season, also, the population is increased by nearly 10,000, with the advent of Scottish fish workers who assist in curing, packing and exporting the fish.

Farther north, round Cromer and Sheringham, the local fishermen have a large trade in crabs and lobsters. Along the saltings shellfish abound; Brancaster mussels and Stiffkey cockles are known far beyond their own district. Until recently it was not unusual to observe sea trout being caught in the shallows inland by means of nets drawn through the streams by horses.

Among the local agricultural industries first place must be given to the rearing of turkeys and geese, which once used to be driven from Norfolk to London immediately after the harvest, when the flocks would feed on the



THE VARIED COASTLINE

1. The mouth of the Teign (Devon), showing the bar on which Teignmouth is built. 2. Beer Head (Devon), the most westerly chalk cliff of England, with fishing boats drawn up on the strand. 3. The clay cliffs of Ruzon, Norfolk. 4. Kynance Cove, Cornwall

Photos: A. L. Lansfield; British Railways

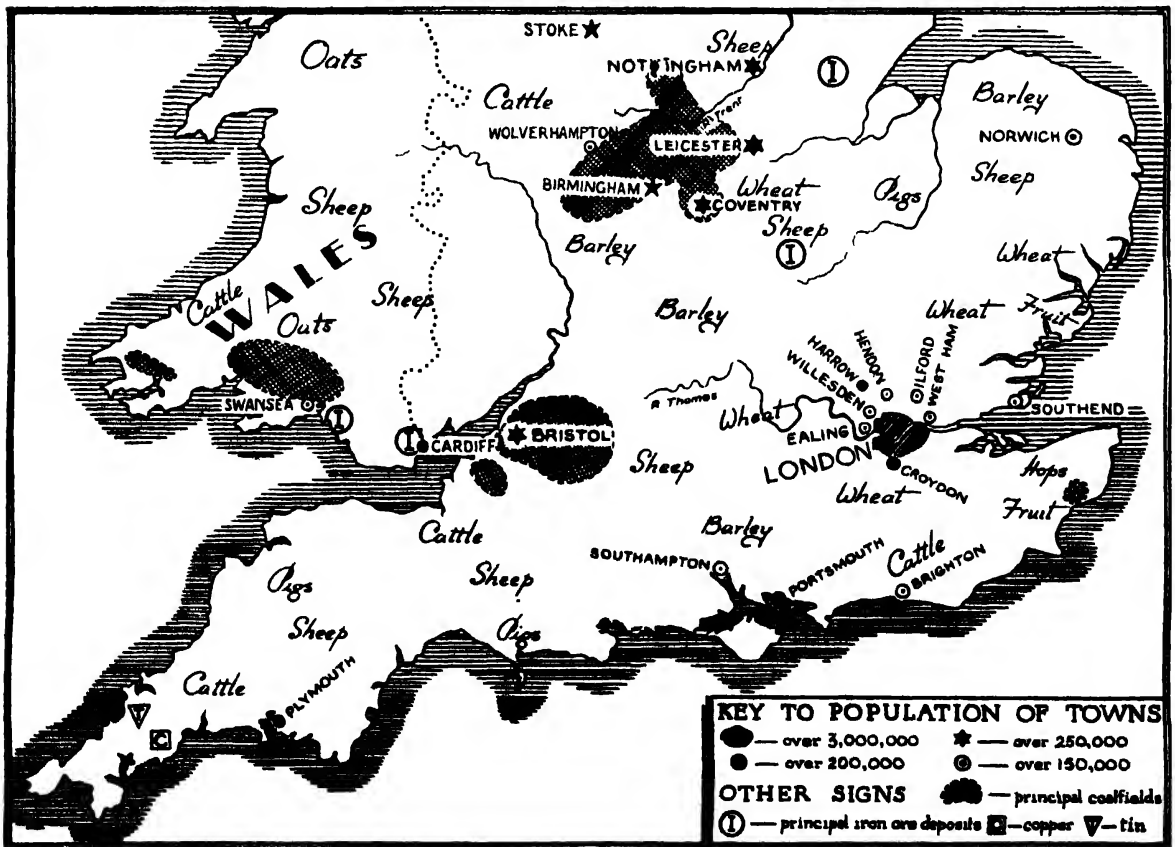
stubble fields and the journey would sometimes take more than two months. Around Norwich the mustard plant is grown over many square miles, and gives a bright splash of colour to the countryside, though much of the seed used in the mustard works of Norwich is brought from Lincolnshire and Essex. Finally, the reed cutting and harvesting is centred in the Broadland district, many of the surrounding villages being dependent largely on the harvest of reeds which are used for thatching and for the making of baskets and brooms, which are peddled from house to house.

In all four counties the rural scene is much the same as that which excited the admiration of William Cobbett: "The barns and everything about the homestead so snug, the sheep and cattle in such fine order, the ploughman so expert, the land in such a beautiful state."

Distribution of Population. The rural character of the four counties is shown by the fact that outside a twenty-mile radius of London within which large boroughs such as East Ham, West Ham, Dagenham, Ilford, Leyton, Hornchurch, and Walthamstow occur, there are only three towns with more than 100,000.

In Essex, Southend-on-Sea, with a population of 151,830, is by far the largest, Colchester only reaching a total of 57,436, and Chelmsford, the county town, 37,888. The population of Hertfordshire is even more scattered, the largest town being Watford, with a population of 73,072, much of this being composed of families whose work lies in London, as in the case of the large Essex boroughs. Apart from St. Albans (44,106) the only towns outside the twenty-mile radius which exceed 20,000 inhabitants are Hemel Hempstead (23,523) and Letchworth (20,321). In Suffolk, again, the largest town, Ipswich, has just under 105,000 people. After Lowestoft (42,837) the next largest town is Bury St. Edmunds, with a population of 20,045.

In Norfolk, Norwich and Yarmouth, with 121,266 and 51,105 respectively, are followed by King's Lynn, with a bare 26,173. If these figures are compared with the single county of Lancashire, in which there are nine towns with a population of 100,000 or more, and at least ten more exceeding 50,000, the agricultural character of East Anglia will be appreciated. (Figures are 1951 census.)



The Fen Country and Lincolnshire

THE vast level expanse of the Fen country adjoins Norfolk on the west and covers more than half of Cambridgeshire, a large part of Huntingdonshire and the whole of southern Lincolnshire. In fact, the only areas in these counties which lie entirely outside the Fens are the hills in the extreme south of Cambridgeshire, where the East Anglian Heights cross the county, the Isle of Ely in the north, which is raised a bare 100 feet or so above the level of the Fens, and northern Lincolnshire, where the same line of chalk hills which emerge in Cambridgeshire is continued after crossing the Wash and a parallel line of limestone—part of the belt which extends from Portland Bill through the Cotswolds to the North York Moors—extends along the west of the county. Like East Anglia, this area is mainly agricultural, more than nine-tenths of the total area being either pasture or arable land. The industries carried on are similarly mainly connected with agriculture, such as the manufacture of agricultural implements at Boston and Lincoln and the manufacture of beet sugar, apart from the printing industry which has been closely associated with Cambridge since the foundation of the University.

History of the Fenlands. Many attempts have been made since Roman times to drain the Fens, which extend to-day to some 7000 acres; in fact, the great Roman drain known as Carr Dyke and the Roman causeway from Denver to Peterborough can still be traced. The position at that period was that the land which varied little from sea-level was flooded partly by the sea and partly by the outflow of the rivers, particularly the Ouse. The Romans successfully stemmed the advance of the sea by raising embankments along the coast, but made no provision for improving or deepening the outflow of the rivers. Thus, when these were neglected, their work proved more a hindrance than a benefit, and resulted in the Fens returning rapidly to a more marshy condition than had previously existed. It was due to the efforts of the religious Orders which established monasteries on the islands in this water-logged morass at Ely, Crowland, and elsewhere, that the first effective attempts

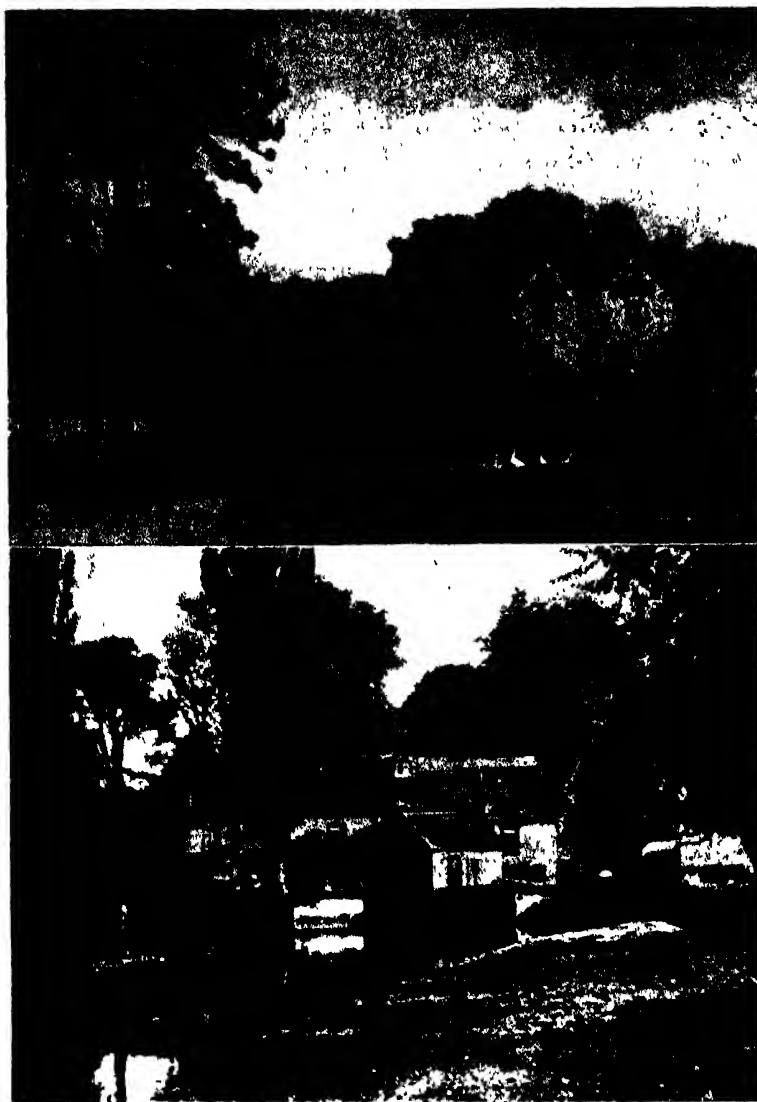


REED GATHERING

A reed maker gathering reeds on the edge of the Fen country
Photo. *The Times*

were made to drain the land on scientific principles, by digging canals such as Morton's Leam, named after a fifteenth-century bishop of Ely. In the sixteenth century the Old and New Bedford Rivers were cut under the direction of Sir Cornelius Vermuyden, and many windmills were built to pump the water to higher levels. All that has followed, including the provision of steam in place of wind power pumping, and the provision of many new cuts or drains, has been based upon, rather than superseded, Vermuyden's work.

The scenery of the Fens is characteristically level and almost treeless, the black peaty soil having proved admirable for the cultivation of corn crops and vegetables. Partly owing to the fact that the rainfall here is approximately the same as in East Anglia, the Fens are included in England's wheat belt. The fields



THE FARM AND THE MILL

Above A Buckinghamshire homestead *Below* A mill at work. The farm and the mill have been the twin pivots of English rural life since the first Anglo-Saxon settlements. In many villages they still persist side by side with the church, thus retaining the medieval village form.

Photos Charles Mougne, *British Railways*

are characteristically large, and often bounded by smaller dykes, so that in Lincolnshire it is common to see farm workers leaping across these natural boundaries by the aid of a long pole. Necessarily the villages, except those on the islands, are relatively modern and are mostly straggling hamlets of brick-built cottages, along the side of the straight roads which run parallel with the drains. In those parts of the Fens where the land has not yet been reclaimed sedge and reed continue to grow in profusion, both being used locally for thatching purposes.

The northern part of Lincolnshire presents

a very different picture. The "Wold" and the "Cliff" respectively, i.e. the chalk and limestone countries, are definitely hill districts which, though the former rarely exceeds 400 feet and the latter 200 feet, give a pleasant appearance of undulating fields with many pretty villages in the hollows of the hills. The Cliff derives its name from the fact that the limestone presents an abrupt escarpment of 100 feet to the west which is only broken by the Lincoln Gap. The chalk country is sparsely wooded—mainly rolling green fields where sheep, cattle, and horses find adequate pasturage. The limestone country is better wooded, with many large coppices after the manner of the Cotswold country to which it is akin in soil, and is a country of mixed pasture and arable where, partly owing to the higher rainfall and partly to the lighter soil, wheat is a less successful crop than oats or barley.

The most characteristic crop of Lincolnshire, however, is potatoes, for a larger area in the county is devoted to the production of this vegetable than of any other two counties combined, with the single exception of Yorkshire. The Lincolnshire "red" cattle and the Lincolnshire long wool sheep are local breeds which have won a national reputation. The

horse fairs of Lincoln, Boston, Stamford, and many other towns are an indication of the importance of horse breeding in the life of the county.

Whereas in the Fen country most of the villages are brick-built from the product of the Cambridgeshire brickfields, in the Wolds and the Cliff country most of the churches and a number of the village cottages are of the local limestone, which though perishable is highly picturesque, and is as typical of the district as is the local stone of northern Norfolk. From the same hills is derived the county's only important mineral—iron ore—though this

is not raised in such large quantities as in the continuation of the same range of hills in Yorkshire. For the rest, mention must be made of the osier beds and willow walks around Cambridge which give the raw material for the local craft of basket-making; and of the peat bogs on the edge of the Fen country which continue to give fuel for local consumption. Finally, round Spalding and Boston many hundreds of acres are given over to the culti-

vation of daffodils and tulips. This, the only district in England comparable with the flower growing districts of the Netherlands, is showing a gradual increase.

Large towns are no more frequent than in the first of our natural regions. Not a single town in all three counties has attained a population of 100,000. The largest is Grimsby (94,527) followed by Cambridge (81,463), and Lincoln (69,412). (1951 census.)

The South-Eastern Counties

THE south-eastern counties—Kent, Surrey, and Sussex—have a physical unity derived from the chalk hills of the North and South Downs. The former extend from the South Foreland through northern Kent and Surrey into Hampshire, whilst the latter stretch from Beachy Head through south and central Sussex and over the Hampshire border near Petersfield. The two ranges of hills converge in the chalk plateau in central Hampshire. The area between the two chalk ridges is known as the Weald, and shows a symmetrical arrangement of scenery according to the rocks which form the sub-soil. In fact, the whole of the three counties is included in the chalk or the Weald, except the flat seaboard of western Sussex, the district where the North Downs

fall gently to the Thames Valley and reclaimed land such as the Romney Marshes.

The North and South Downs. There is a distinct similarity in scenery and rural life between the North and South Downs. Both offer a steep escarpment to the Weald, with an abrupt rise of 500 to 800 feet. Both broaden in places to a wide plateau and both are relatively treeless where the chalk is exposed. In other parts, however, where there is a thin covering of clay upon the chalk, as in west Sussex and west Surrey, beeches, oaks, and many other English forest trees grow in abundance, sometimes covering the sides of the hills in hanging woods, such as the box and yew-covered slopes of Box Hill, where the Mole has cut a narrow gorge through the sheer chalk.



THE SUSSEX WEALD

Ploughing under the face of the South Downs, near Alfriston. The point at which the clay soil ends and the chalk begins is clearly shown by the limit of the ploughed fields

Photo: *The Times*



THE THAMES VALLEY

One of the steamers which ply between Kingston and Oxford passing the Cliveden Woods near Cookham Lock

Photo: British Railways

In Sussex the "blunt, bowheaded, whale-backed downs," which Kipling immortalized, are the most conspicuous feature of the landscape—wide, rolling, green hills. In Kent, long spurs stretch towards the Thames Valley from the main ridge, divided by narrow eroded valleys which give the countryside rather the aspect of a tumbled land of hills and dales. In both cases the soil of the upper slopes is poor and flinty, and is seldom given over to the plough, although there is evidence in the lynchets of the South Downs that cultivation was carried on before the Christian era. Sheep and cattle, however, find good summer pasturage and, though their number has diminished in recent years, the South Down cattle still have the highest reputation. It is surprising in view of the urban character of the coast of Sussex that villages to the north of the downs, such as Clayton and Ditchling, preserve their rural population in the utmost simplicity. In fact, among the whole of the Sussex ridge the shepherds and cowmen are the sole workers on the downs and still water their flocks and herds at the dew-ponds, some of which have been in use for 1000 years or more.

These unusual survivals were made by lining a depression in the chalk with a layer of puddled clay, this being covered with flints to prevent the cattle treading it down. The clay prevents percolation downwards and when precipitation is in excess of evaporation water collects in the pond. This source of water supply is very important on the chalk downs, where the water table may be anything up to 300 feet below the surface.

One distinction between the Sussex Downs on the one hand, and the North Downs on the other, is that the former are only fenced at rare intervals, whereas the latter have been divided mostly into the usual hedged fields of the English countryside. In both districts the valleys are cultivated and yield a modest harvest of wheat and a more generous one of oats and hay. Even so, many of the small farmers of the Kentish uplands gain but a meagre livelihood from the unresponsive soil.

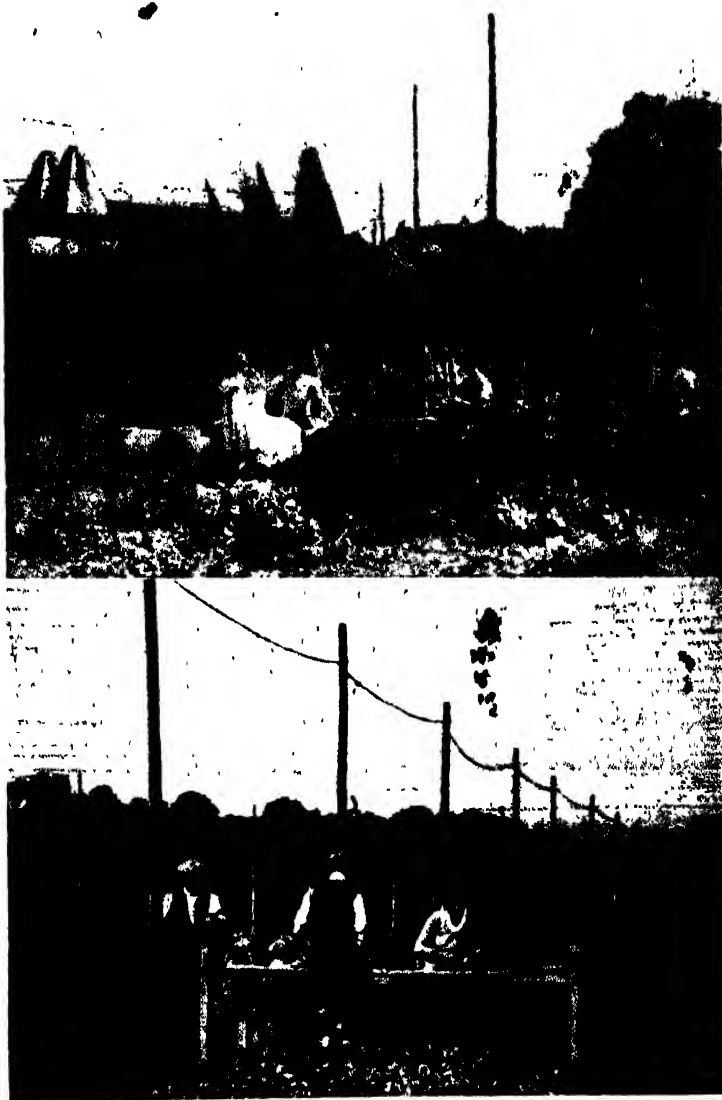
The Weald. An observer from either line of chalk hills will gain the impression of an unusually well-wooded countryside. Kipling noted it when he spoke of the "dim blue-wooded goodness of the Weald." Until recent centuries,

in fact, the whole Weald was an almost impenetrable forest, with the probable exception of the Ashdown Forest district, which shows no evidence of having ever been covered with woods, and derives its name from the true meaning of forest—a royal hunting preserve. Those parts of the Weald which were not afforested, for instance, certain districts of mid-Kent, were boggy and impassable on that account in rainy weather. The effects of this are seen in the absence of any traces of ancient habitation which is so common on the downs, only Ashdown Forest yielding any material signs of prehistoric man, and traces of Saxon and Roman occupation being unusually meagre in the low-lying districts. Even in the eighteenth century the Weald of Kent was very thinly populated, and until the beginning of the present century was notorious for its bad roads, which are described by contemporary writers as little better than rutted cart-tracks, impassable in winter.

To-day, the effect of a much wooded landscape is misleading, for, except where the woods have been deliberately preserved or the land laid out in parks, little of the medieval forest remains, except in the form of scattered coppices and hedgerow timber. An exception must be made in the case of the Sussex Weald between Horsham and Wych Cross and of the densely wooded area of Kent around Goadhurst and Tenterden, where the characteristic place name ending in "hurst" is further evidence of early as well as more recent woodlands. Many recent plantations, however, are once more changing the face of the countryside.

Several causes have contributed to this result, the most important being the iron-working industry of Kent and Sussex, in which thousands of acres of woodland were stripped to provide the fuel for the furnaces. To-day

the industry is only a memory preserved by names such as Ashburnham Forge, and Ashburnham Furnace, by the hammer ponds of the Sussex Weald (formed by the damming of



THE HOP INDUSTRY

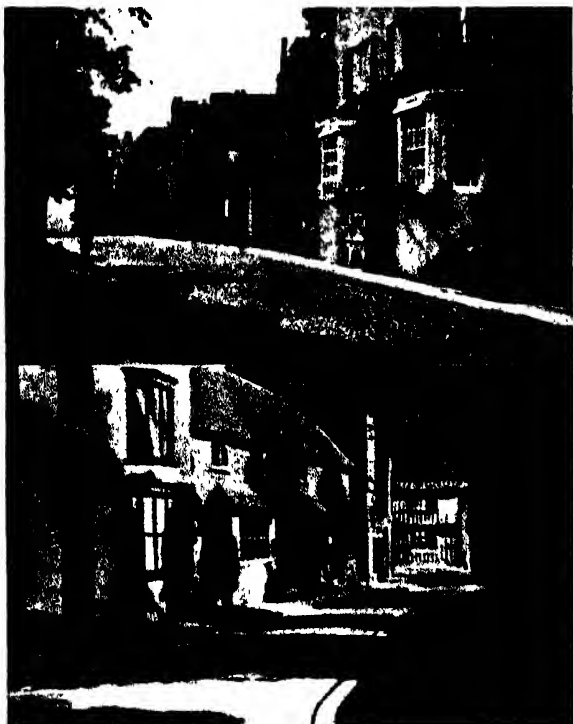
Above. Hop picking at Hadlow, Kent. *Below.* Gathering the hops in Herefordshire. After picking, the hops are dried in the queerly shaped buildings with conical cowls known as cast houses, shown in the upper picture. They are placed on a platform beneath which a fire is lighted, the purpose of the cowl being to permit the warm air to escape after passing through the hops.

Photos. The Times, M. Wight

streams to produce water power) and by numerous half-filled pits such as those round Thursley in Surrey, which perpetuate the places where the ore was obtained. The industry had begun to diminish before the Industrial Revolution, but the last blows were dealt it by the centralization of industry around the

coalfields of northern England. Many examples of Sussex ironwork remain in the churches, in the form of gates and monuments, such as those in Mayfield Parish Church. Fortunately, much of the Weald is very fertile, and, in spite of this industry's disappearance, the villages remain prosperous.

Between the two chalk ridges there are two sandstone ridges well marked in Surrey, in the range of hills which has no distinctive name,



THE CHANGING FACE OF ENGLAND

Above One of the cobbled streets at Rye which formerly were universal but survive only in a few places. *Below* An old street of a Sussex market town in which the houses have been rebuilt and the road re-surfaced. The half-timbered house at the end of the road suggests the appearance of the street before reconstruction

Photos. W. Gardner

extending from Hindhead to Leith Hill and running parallel with the chalk downs through the whole of Kent. The Forest Ridge of Sussex is equally well-marked, and there is a further line of sandstone hills which ends in the cliffs near Hastings. Parts of these, where the soil is sandy, are covered in heather, gorse, and coniferous trees. Ide Hill, Toy's Hill, and Crockham Hill are three notable eminences in Kent belonging to this range. The last of the three illustrates the predilection of rhododendron, fir and heather for a sandy soil, but the former two are covered with a moderate layer of clay soil and are equally conspicuous for their deciduous forest trees. The belts of

clay which lie between the ranges of hills give ample compensation for their poverty and are among the most fertile in all southern England.

A well-known feature of the Kentish Weald is the number of oast-houses where hops gathered from the extensive hop-gardens are dried. In some places a dozen or more of these conical cowed houses can be counted in the space of a few hundred yards. Many square miles of the Kentish Weald, too, are covered by orchards, cherries being more characteristic of the extreme north of Kent between the downs and the Thames estuary.

Another fact which has had a profound influence on the prosperity of the county has its origin in the history of 1000 years ago. A casual observer will recognize that the farms in Kent are relatively large in number and small in size compared with most other counties, especially in the northern districts, where there has been cultivation since the earliest times. This is due to the custom of gavelkind which was observed in Kent until recent years. Gavelkind is a survival from Saxon times by which a man's land was inherited jointly by his heirs instead of being inherited by the eldest son according to Norman custom. The privilege of retaining the older custom was granted to the men of Kent by William the Conqueror, and gave rise to the yeomen of Kent, of whom it was sung—

A squire of Wales, a knight of Cales,
And a laird of the North Countrie;
A yeoman of Kent, with half a year's rent,
Will buy them out all three.

Numerous farmhouses of the sixteenth and seventeenth centuries, many of them half-timbered, are a still present reminder of Kent's medieval prosperity. All three counties are noted for the extent and beauty of their parklands. The Bayham Abbey estate of the Marquis Camden, the Eridge estate of the Marquess of Abergavenny, and Ashburnham Park in Sussex, Knole Park and Eastwell Park in Kent, and Marden Park in Surrey, are a few of the most notable.

Along the coast of Sussex, and also around the Thanet coast of Kent, there is an almost continuous succession of holiday resorts which have entirely superseded the fishing villages which preceded them, though a few of the Cinque ports such as Rye, Winchelsea, and Sandwich have changed little, and Dover remains primarily a port and only secondarily a holiday resort.

As in the case of Essex, the largest towns of

Kent and Surrey are grouped round the outskirts of London and are, in fact, suburbs of the Metropolis. Croydon has a population of nearly 250,000, and there are several others in Surrey exceeding 40,000 in numbers. Gillingham (68,099), the dormitory town of the Medway Valley industrial area, Chatham (46,940), Maidstone (54,026), and Folkestone (45,200) are the largest towns in Kent outside a

twenty mile radius of London. Inside that area Bexley and Chislehurst exceed 80,000, and Beckenham exceeds 70,000. In Sussex all the largest towns are situated on the coast; Brighton (156,440), Hastings (65,506), Eastbourne (57,801), Hove (69,435), and Worthing (69,375) account for 70 per cent of the county's urban population. (Figures are 1951 census.)

The Chalk Country

ALMOST the whole of Wiltshire is contained in the chalk plateau which extends into the neighbouring counties of Berkshire, Hampshire, and Dorset. These four counties, therefore, are considered as a homogeneous district, although they contain such characteristic features as the New Forest in Hampshire, the Vale of Blackmore in Dorset, and the Vale of White Horse in Berkshire, as well as the sandy country which occupies most of the eastern extremity of the latter county.

Salisbury Plain is the central mass from which radiate the various chalk ridges giving the countryside its distinctive scenery. One broad belt passes to the north of Winchester and then turns south-east to Petersfield, where it merges into the South Downs of Sussex. A second takes a slightly more northerly course along the borders of Hampshire and Berkshire, where Ink Pen Beacon and Highclere overlook the Kennet Valley, ultimately becoming the North Down ridge, which continues through Surrey and Kent. From North Wiltshire the high downs about Marlborough are continued along the line of the Ridgeway through Berkshire to the point where at Goring the chalk has been cut by the water-way of the Thames, on the farther bank of which they rise again as the Chiltern Hills. Westward of Wiltshire an extension of Salisbury Plain reaches to the Somerset border, and farther south a long ridge beginning near Salisbury and including the wooded country of Cranborne Chase reaches into Dorset and ends in the most westerly chalk cliff of England, near Lyme Regis. Finally, another line of chalk extends parallel with the coast of Dorset from Bridport to the Purbeck Hills and Swanage.

Wiltshire. This unique physical background is reflected in the dominating scenery

of each county, but it is most clearly and effectively seen in Wiltshire. Only about fifty square miles are outside the chalk area. This district, in the extreme north-west, falls within the watershed of the upper Thames, and reaches to the foothills of the Cotswolds. The country derives its diversity from the numerous river valleys which cleave the plateau. The most important of these scenically as well as economically is the Avon, which flows due south from the high ridge below Marlborough to the Hampshire boundary.

In the valley of this river and its tributaries, such as the Wylye and the Nadder, is contained the greater part of the county's arable land, whilst round Salisbury the meadows give rich pasturage for many herds of cattle. The upper slopes of the downs are grazed over chiefly by sheep, whilst even these have diminished greatly in recent years. The fertile Vale of Pewsey, which lies between the Marlborough Downs and the main mass of Salisbury Plain, is an area of mixed pasture and arable.

The farms and villages, as well as the large towns, lie mainly in the river valleys. It is not unusual to find ten or more square miles of the uplands entirely devoid of habitation. In fact, this land has never been ploughed, as evidenced by the large number of prehistoric barrows, particularly on the Marlborough Downs and that part of Salisbury Plain which is adjacent to the Late Stone or Early Bronze Age monument of Stonehenge.

The only historic industry associated with Wiltshire is the manufacture of cloth. Names such as Wilton and Trowbridge have given their names to well-known styles of cloth goods, the former being especially well known for the type of carpet which had its origin in the town. At Bradford-on-Avon the industry

survived within living memory, but the last mill has been closed and the industry on a large scale has totally disappeared.

Special mention must be made of the milk-producing area, which lies in the north-west of the county. This is a district admirably suited to the rearing of cattle. The valley is well watered, the climate moist and pasturage ample for large herds to be kept in a comparatively small area. This phase of agriculture is

chalk, the New Forest, and the coastal plain from Portsmouth to Bournemouth. The distinction between the highlands of the north and the lowlands of the south has frequently been noted. The uplands are more thickly wooded than the corresponding district of Wiltshire, the valleys are broader, the land more fertile. Although in the extreme north, just over the county boundary, Walbury Hill reaches a height of 975 feet—one of the most



A TOWN UNDER THE HILLS

A view of Malvern from Priors' Tower showing the Malvern Hills with Worcester Beacon on the right and Herefordshire Beacon on the left
Photo. British Railways

as characteristic of the north-west of Wiltshire as is corn-growing of the dry climate and clay soil of East Anglia.

Since the county lies outside the range of modern industrial development there is still a remarkable uniformity in the style of the villages, many of which retain large numbers of thatched and half-timbered cottages and have rarely spread beyond their former limits except where the occupation of the Plain by the military has produced a rapid rise in population near Bulford and a consequent increase in the size of the villages along the Valley of the Wiltshire Avon.

The Hampshire Scene. Hampshire, though the greater part of it shows a distinct similarity to its neighbour, has two well-defined scenic districts which fall outside the

striking elevations of the downland country—the plateau is rarely more than three or four miles wide, and soon falls to gently undulating country which bounds the Valley of the Test. Similarly, the South Downs, though they approach 900 feet near Petersfield, more generally have an average elevation of 300 to 500 feet, and lack the wind-swept colder conditions of Salisbury Plain.

The most characteristic trees are the yew and juniper, but in many districts, as around Winchester, beech trees are conspicuous and there are many modern plantations of conifers and everywhere a generous supply of hedgerow timber. Along the valley which divides the North from the South Downs there is a number of prosperous market towns, including

Basingstoke, Whitechurch, and Andover. Generally the villages are more frequent and the scattered farms more numerous than in the country of Salisbury Plain.

The rearing of sheep is at once the most significant and most productive of Hampshire's present-day agricultural occupations. The pasturage is rich and has evolved the Hampshire Down breed of sheep, far-famed for its wool-producing qualities, whilst the valleys are almost as suitable for cattle-rearing as the north-west of Wiltshire.

Excluding the New Forest, nearly four-fifths of the total acreage of the county is productive.

By no means the whole of the district is wooded. In this connection it must be remembered that the term "Forest" has in its strict significance no connection with woods, but with country suitable for hunting. As an instance of this it may be noted that neither the Forest of the High Peak nor the Forest of Skiddaw has a single tree. The woodlands are in fact generally in the central parts, round Lyndhurst, Cadnam, and Brockenhurst.

About half of these woodlands is of some age, and include magnificent examples of oak, beech, and chestnut, and other English forest trees. The remainder, particularly between



A BERKSHIRE LANDSCAPE

Photo, F. Read

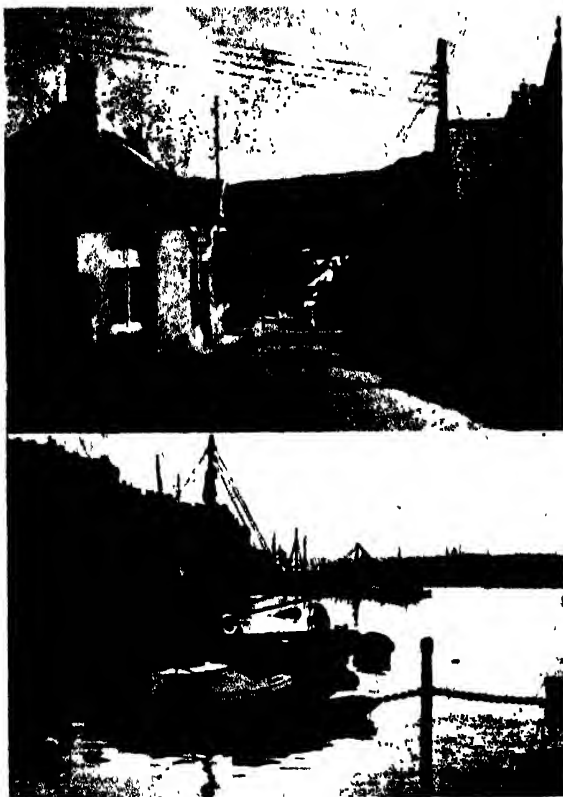
It is significant that wheat still occupies a greater acreage than any other crop, while oats and barley are a close second and third. The acreage allotted to vegetables increases rapidly in conformity with the general tendency for local products to be raised in districts bordering on the largest towns, of which Hampshire has at least four—Portsmouth, Southampton, Bournemouth, and Winchester—in contradistinction to Wiltshire, where only Salisbury and Swindon are of any size.

The New Forest. The New Forest is unique in history, and reflects its history in its scenic character, its customs, and the character of its production. Ploughed land is entirely absent, except where the Forest falls away to the Valley of the Avon. The Forest was enclosed for hunting purposes by the Norman kings, whence it derives its title "New," as opposed to the older hunting preserves set aside by the Saxon kings before the Conquest.

Lyndhurst and Brockenhurst, are made up of comparatively recent plantations of coniferous trees, which exhibit a strange monotony by comparison with the grace of the older trees of the Forest. The rest of the area is composed of wide expanses of heathland which near Stoney Cross overlook the Valley of the Avon, and in the south look across the Solent to the Isle of Wight. Heather and bracken are the only plants which flourish, though the predilection of coniferous trees for a sandy soil is well shown by the enormous size of some of the pines on the edge of Beaulieu Heath.

The life of the people who live and work in the Forest is characteristic, many of them being woodsmen engaged in lopping, cutting, and thinning out the plantations. The Commoners' Rights granted in the Middle Ages are still sedulously preserved. The Forest Court at Lyndhurst, held by the verderers, has a united jurisdiction over the Forest lands. A common

sight in every part of the Forest is the number of ponies, which are the property of the commoners and which are rounded up periodically to be sold at the Lyndhurst Fair. These ponies are virtually wild ponies, many of them finding food in the Forest even during the winter, and foaling in the open without human assistance—a fact unique in English agriculture. Until recently many of them were sold for use as pit ponies, but with the diminution of the



VILLAGES OF DEVON AND CORNWALL

Above. Brixham, south Devon. *Below.* Port Isaac on the north coast of Cornwall

Photos A. L. Lancefield

demand for this purpose they are diverted to the open market. A few deer also roam the Forest, but their number is steadily diminishing. Sheep, so common in the northern part of the country, are infrequent enough here to be regarded as a curiosity by the local people.

Round the southern fringe of the Forest, iron ore used to be quarried. As in Sussex, a flourishing ironwork industry was established, of which only some hammer ponds remain to remind the modern wayfarer of its existence. There are still a few charcoal burners, though these are not so frequent as in the Forest of Dean.

The Coastal Plain. The coastal plain of Hampshire is scenically disappointing. In the east it is industrialized. In the extreme west, Bournemouth and its outliers extend from the mouth of the Avon to the county boundary. In the centre, round Lymington, there are extensive mud flats which give a dreary, uninviting appearance, relieved along Christchurch Bay by low, attractive cliffs. Formerly this district was as well known as the saltings of Norfolk for its production of salt. The last of the salt works, situated at Lymington, was closed in the seventies of the last century, but it is recorded that prior to that as much as £50,000 a year in taxes was paid by the firms engaged. It is known that the industry had its beginnings in the earliest period of the history of Hampshire, when six salt pans were noted, in the parish of Hordle alone, by the Domesday Survey.

The Berkshire Downs and the Vale of White Horse. We have seen that in Hampshire the chalk plateau breaks into two ridges; in Berkshire only one main ridge is formed—that which extends from the Marlborough Downs to the Thames at Goring. Through the whole length of the ridge the downs present a steep face to the north. Where they overlook the Vale of White Horse the contrast between the two types of countryside is astonishing in its diversity. On the one hand there are the bare, wind-swept, open downs, on the other the chess-board pattern of hedgerow and field, marked out in a valley which has only one rival, in the Dorset Vale of Blackmore, to be called the most fertile of all southern England. Indeed, the Vale of White Horse has much in common with that of Blackmore. There is the same mixture of rich pasture and corn-growing land, the same generous timber and the same tendency for the villages to lie in groups by the courses of the many streams which water it, each built round a single manor-house and village church. Northward of the Vale of White Horse the scene continues almost unchanged to the banks of the Thames, although the country immediately bordering the river is almost exclusively pasture land.

The Berkshire Downs have two claims to distinction, one as a horse-breeding centre; the other as a sheep-rearing district. The former industry is most conspicuous near Lambourne, where there are many large and flourishing stables and where it is common to see long strings of racehorses exercising on the downs. East Ilsley is by its position and historic

associations the centre of the sheep-rearing industry. In fact, the East Ilsley sheep fair used to be one of the most important in England. No one who visits it to-day can fail to notice the visible links with its important past—the sheep pens on the hillside and the number of large inns quite out of proportion to the size of the village.

Berkshire Villages and Towns. The villages of the downs have much to commend them. Some like West Ilsley lie in deep hollows almost hidden behind a screen of trees. Others like Farnborough are hill-top hamlets straggling about the cross-roads where the few old roads across the downs meet.

As frequently in the case of a sheep-rearing country, Berkshire was once notable for the wealth of its cloth industry. Many of the small towns immediately to the north of the downs owed their origin and medieval prosperity to this factor; their large half-timbered houses and thatched cottages recall the days when they were the homes of rich merchants and prosperous weavers. Perhaps the most significant of all these towns between Goring and Wantage is East Hendred, which only a hundred years ago was an important centre of the industry. To-day, in addition to many large merchants' houses as reminders of its former wealth, it possesses a Tudor manor-house with chapel attached—one of the few places where Roman Catholic services have been held continuously since before the Reformation.

Berkshire has three small areas which do not fall within the downs or the Vale of White Horse. One is the Valley of the Kennet, which begins where the foothills of the downs merge into the level water meadows and extends southward to the line of the Hampshire Downs. Chiefly it is a pastoral country with one or two local industries still maintained, such as the cultivation of the osier in the backwaters of the Kennet.

To the south of the main road, between Newbury and Aldermaston, there is a low sandy ridge, like the Breckland district of Norfolk, covered in scrubby firs and heather. Where the Kennet joins the Thames, a growing industrial centre has come into existence, and Reading, famous for its manufactures of biscuits, sauces, and other foodstuffs, is incongruously situated in a county which is otherwise purely agricultural. As though to mark the discontinuity, much of the county to the east forms part of the sandy country of which

Bagshot Common is typical. Extensive pine-woods and heather commons predominate, and, except where the land falls to the Thames, it resists cultivation.

Dorset. The fourth county of the chalk, Dorset, is scenically the most magnificent and, in addition, has the advantage of a coast-line which is the most varied and one of the most picturesque of southern England. From the chalk headland of Swanage to the Devon boundary the high cliffs never fail, except for a few miles where the watering-place of Weymouth has been built on a peninsula which ends at Portland Bill. The rocks along



A PICTURESQUE DORSET TOWN
A view of Swanage showing the stone-built houses and the mill pond
Photo W. Rose

the coast are of varying hardness and have yielded diversely to the effects of sea and weather, so that the whole shore is broken into small inlets and bays, of which Lulworth Cove is one of the most famous. In places the cliffs have been carved into fantastic shapes, resulting in natural formations such as the Durdle Door and the Kimmeridge Ledges. St. Alban's Head and White Nothe are two of the most prominent headlands, the latter overlooking Ringstead Bay, where pasturelands come down to the edge of the cliffs.

Farther west there occurs the remarkable Chesil Bank—a long shingle beach in which the size of the pebbles decreases from east to west, separated from the mainland by an elongated lake. Where the limestone cliffs of the Golden Cap and the last chalk cliff near Lyme Regis adjoin, the effect is colourful in the extreme.

Dorset has aptly been divided into three parts—Felix, Deserta, and Petraea. Felix is the happy, smiling, fertile Vale of Blackmore, Petraea the calcareous, hard soil of the uplands, and Deserta the sparsely-inhabited heather-covered waste which has Wareham for its

centre. It is enough to say of the Vale of Blackmore that, along with the near-by Vale of Marshwood, it lends itself to every form of agricultural use. The moist climate and the well-watered nature of the ground make it most admirable for cattle-breeding; yet corn crops are prolific and yield a rich harvest. By contrast, both the North and South Downs yield but a poor return to the husbandman, though flocks of sheep and a few herds of cattle find adequate pasturage, and in the centre of the chalk the Valley of the Piddle, Puddle or Trent gives a narrow strip of land suitable for the plough.

The villages are an admirable feature of the country. Sydling St. Nicholas is one of the most superb in the north, Portisham in the south, but there are many others like Cerne Abbas, Piddletrenthide and Whitchurch Canon-icorum which are little, if at all, inferior.

The whole district which has Dorchester as its market has been immortalized in the works of Thomas Hardy. He paints on his broad and imaginative canvas an admirable word picture of the life and temper of the people. There is, in fact, something insular about the Dorset downsman, for communications are far less complete than in other parts of the country. Weymouth and Dorchester, only a few miles apart, are the only towns of any size in a belt of country which has Blandford Forum at one

angle, Wareham at a second, Bridport at a third and Yeovil at a fourth. It is significant that even the main road from Dorchester to Bridport has no bus service during the winter months.

The poverty of the heathlands round Wareham is well illustrated by the fact that even heather and Douglas firs which are always vigorous in a normal sandy soil both tend to have stunted growth in this district, which may ultimately revert to the sand dunes from which, according to some good authorities, it had its origin.

Apart from its varied agricultural production, Dorset has a unique store of natural wealth. The rapid rise of population in Portland is evidence enough of the prosperity of the Portland stone industry, particularly when it is remembered that many engaged in the quarries reside in Weymouth. The Isle of Purbeck (which a glance at the map will show is no island at all) is also famous for its stone. Purbeck marble has in fact been used in the architecture of almost every part of the country. In Dorset, too, begins the limestone belt which farther north forms the Cotswolds and is continued to the North York Moors. Limestone itself is quarried and used in some local building, though not to the same extent as in the Cotswold country. Iron ore has been discovered as in Gloucestershire and Yorkshire, but has never been fully exploited.

The Chiltern Hills

THE Chiltern Hills, the only offshoot of the chalk not previously treated, begin at the Thames by Goring and end where they merge into the lower hills of north Essex and Cambridgeshire, more generally known as the East Anglian Heights. Though they are thus an integral part of the great line of chalk extending into Yorkshire they have a unique and distinctive character given them by the predominance of the beechwoods which influence alike the scenery and the life of the people.

The beechwoods are not, of course, peculiar to this fragment of the chalk; in fact, they are widely distributed and are noted in Hampshire, Sussex, and several other counties; in Buckinghamshire, however, the plantations are thicker and larger and more numerous. For several miles eastward of Watlington they

extend over the northern escarpment of the downs and form hanging woods which, though they often preclude a view from the summit, are most impressive to the traveller approaching the hills from the north. For the rest, the Chiltern country is analogous to the rest of the chalk uplands. The soil is flinty and poor, and intensive cultivation is possible only in the valleys, which fall within the watershed of the Thames. Even there wheat is not vigorous.

In addition to the poverty of the soil, a peculiarity of the climate of these valleys is inimical to agriculture. It is characteristic of the valleys to be tortuous, in contrast with the straight course of most of the chalk valleys. This encourages the ponding of the cold air which drains into the valleys on calm clear nights. So severe frosts are common in late



THE GOTSWOLD COUNTRY NEAR CHELTENHAM

Photo Cheltenham Corporation

spring. At the only station where regular recordings are taken there is no month in which the air temperature has not fallen below freezing-point. Daily ranges of temperature between forty and fifty degrees are by no means uncommon.

The beechwoods have produced their own industry, which, though formerly carried on in a large number of villages, is now largely centred at High Wycombe. The general trend towards specialization, also, has resulted in chairs and baskets exceeding all other products in value, although formerly these were only two among a score or more varieties of wooden articles manufactured from the raw material so near to hand. The consequent thinning of

the beechwoods has now been checked and additional plantations are being made, so that the character of the country is unlikely to change.

Farther east the beechwoods give way to open downs, more reminiscent again of the Berkshire Hills. In the gap where the main commercial route from London to the north-west crosses the Chilterns, Luton has given birth to a varied breed of industries. The Barton Hills, between Luton and Hitchin, are the last prominent outlier of the range. Thereafter the chalk is less obtrusive and covered by a generous layer of clay, except on the very crest of the ridge in the style typical of the East Anglian Heights.

The Midland Plain and the Limestone Hills

IT has previously been shown that a belt of limestone hills extends from the Dorset coast to the North York Moors, broken only where the Wash and the estuary of the Humber interrupt their continuity. If the Midland Plain is regarded as being all the land north and west of the Chiltern Hills as far as the outliers of the Pennine Chain and the Welsh Marches, this limestone ridge divides it into two well-marked parts, and, at the same time, acts as its principal watershed. Thus, most of Oxfordshire falls within the watershed of the Thames, with several rivers flowing southward from the high ground of the limestone ridge. Northamptonshire, Bedfordshire, and Rutland lie within the watershed of the Ouse and Welland. These originate in the same hills, the former in Northamptonshire, near Brackley, the latter in the extreme south-east corner of Leicestershire. Finally, the Nen, which is less important, but, like the other two, flows in a general north-easterly direction to the Wash, rises only a few miles from the Ouse. Conversely, almost the whole of Nottinghamshire and part of Leicestershire are within the watershed of the Trent, which flows to the north of the limestone, whilst Warwickshire and Gloucestershire beyond the Cotswolds are drained by the Severn and its tributary the Avon.

These valleys are of supreme importance to the Midlands as the most fertile parts of the Plain. They give the whole district, comprising the greater part of the nine counties mentioned,

a uniformity which is never monotonous, and only deserves the name of plain by comparison with the hillier nature of the rest of England.

The Cotswold Country. The limestone hills claim our first attention. In Gloucestershire they are best-known as the Cotswolds, extending through the whole length of the county from the region of Chipping Sodbury to Chipping Campden. Beyond that point the ridge continues its general north-easterly direction through Edgehill, through the less well-marked uplands of Northamptonshire, round Market Harborough to the high country to the west of Oakham and on into Lincolnshire, where it has already been noted under its local name of the Cliff.

The name "cliff" gives the clue to the most notable characteristic of the range—the abrupt face which (like the chalk ridges) it presents to the north and west, giving at its highest points near Cheltenham a steep drop of over 1000 feet into the Plain of Severn and even in Warwickshire rising to close on 1000 feet at Edgehill, and one or two other heights in contrast with the mere 200–300 feet which it attains in Lincolnshire. On the south and east this high plateau falls away gradually and gives the impression of a true wold, an undulating, broken expanse of upland, intersected by many river valleys flowing south and east which have carved narrow channels for themselves in the soft rocks. It is due largely to this fact that valleys such as those of the Windrush and the

Evenlode, with their close-hemming hills, have won a high name for beauty of scenery.

A second unique feature of the whole belt is the local stone from which many of the villages and larger towns, such as Chipping Campden and Stow-on-the-Wold, as well as the churches and the manor houses, are built. The stone is so plentiful that it has been used to construct stone walls which take the place of hedges in the same way as in the Pennine Chain. These stone walls are most typical of the Cotswolds proper but occur also as far east as Northamptonshire. The limestone varies in colour from a light brownish tint to a dark grey, and varies, too, enormously in sunshine and shadow. It is this quality, allied with the admirable toning of the stone with the natural colours of the countryside, which gives the whole district its characteristic appearance.

Pasture and Plough. For the rest, there is much in common between the aspect of the limestone and the chalk country. There is the same predominance of pasture land ideal for sheep-rearing and cropped to a smooth surface by the thousands of sheep which graze over it. There is the same tendency for ploughed land to be confined to the river valleys, though in the limestone, land is usually richer than in the valleys of the chalk and lends itself more readily to the cultivation of corn crops. Conversely, this greater natural fertility is offset by the higher rainfall as compared with Berkshire

or Kent. Consequently, we find cattle taking the place of corn crops in many parts of the lowlands.

Some districts of the chalk, notably west Sussex and Hampshire and the Chiltern Hills, are prolific in their growth of beech trees where the chalk is overlaid with clay, so that limestone hills are in many places rich in timber, the beech again being the most characteristic tree, though the oak is not lacking, and recent plantations of conifers, particularly of the Douglas fir, show every sign of reaching a successful maturity. Formerly thousands of acres of the Cotswold Hills were covered in the wych-hazel, which gave its name to many villages, such as Shipton-under-Wychwood. Since the middle of the nineteenth century this area has been largely deforested and the wych-hazel is much more rare than the beech or the fir. In a few places, notably in the vicinity of Edgehill, hanging woods cloak the downs, giving an appearance strangely reminiscent of the corresponding escarpment of the Chilterns.

The villages are particularly notable, and all depend on the local stone for their most signal attraction. Gloucestershire has Bibury, Lower Slaughter and Broadway, to mention only three of the most widely admired, and there are many others especially in north Oxfordshire and Northamptonshire which possess the same type of beauty to a marked extent.

The Scenery of the Plain. A narrow neck of high land between Buckingham and



A COTSWOLD LANDSCAPE

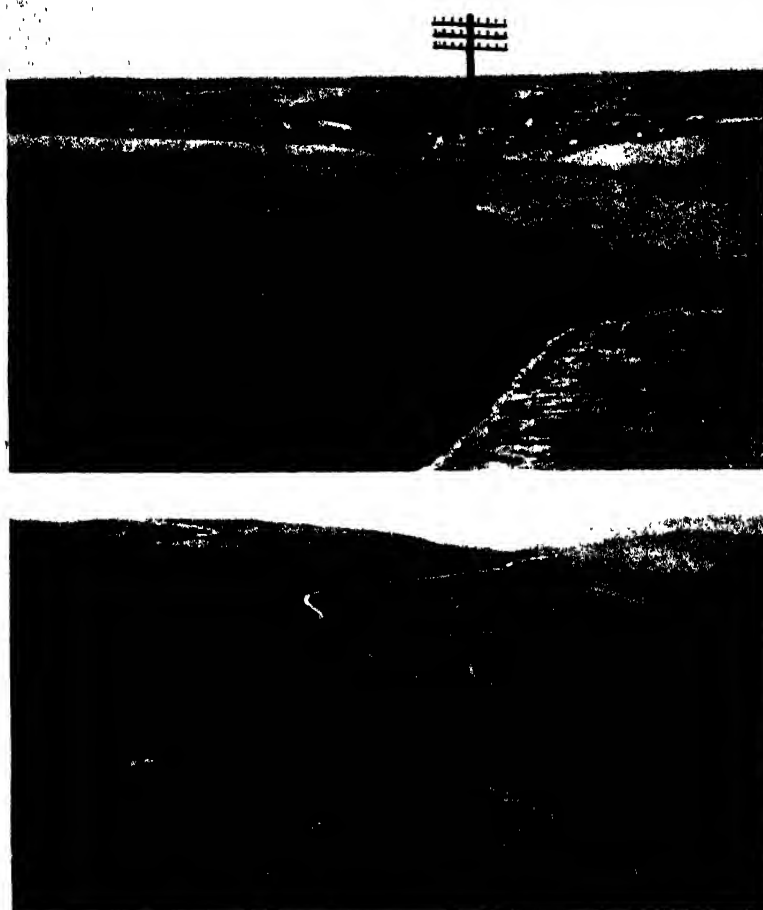
A typical stone-built village in the Wold near Cheltenham



RURAL INDUSTRIES

1. A lace maker of Podington, near Wellingborough, Northamptonshire. 2. A Collyweston slater at work in Herefordshire. 3. Cider making. The worker is shown collecting the pulp as it goes through the mill. This is wrapped in cloth and forms part of the "cheese" placed in the press. 4. A charcoal burner in the New Forest. 5. Brush making in the Isle of Man. 6. Making pottery in the workshop at Etruria, opened by Josiah Wedgwood in 1769. 7. A smith of Otham making an iron candelabrum. 8. The rush harvest on the Norfolk Broads

Photos: *The Times*; M. Wight



A CONTRAST IN SCENERY

Above: Fertile country near Perranporth, in Cornwall. *Below:* Looking towards an isolated farmstead in the barren moors of north Yorkshire, near Castleton

Photos: A. L. Lumsfield; E. F. Davies

Aylesbury divides the Valley of the Thames from that of the Nen and the Ouse. There is much level ground around Oxford, where the desolate expanse of marsh known as Otmoor has become the sanctuary of many rare species of wild fowl. Where the Valley of the Ouse borders on the Fens the scenery approximates to that of the Fen district. For the rest, the whole area is a gently-undulating expanse of mixed pasture and arable, much of it famous hunting country and with many beautiful cameos of river scenery, particularly along the banks of the upper Ouse, where Newton Blossomville is typical of a score or more of riverside villages grouped round a church and a manor-house in the medieval style.

A significant feature of this district, which proclaims its cultivation over 1000 or more years, is the peculiar style of place-names in

which the Saxon name is followed by the Norman family who became lords of the Manor. Newton Blossomville itself is an example in Buckinghamshire, Higham Gobion and Houghton Conquest are two of many in Bedfordshire. A similar peculiarity of place-names has been noted in Essex, where Tolleshunt d'Arcy and Layer de la Haye are typical examples.

North-west of the limestone the Vale of Evesham is famous for its orchards, which cover many hundreds of acres and, allied with market-gardening, give an entirely distinctive scenery. Farther north, where the plain is formed by the Valley of the Trent, the scenery is reminiscent of that of the corresponding Valley of the Ouse. There is a broad belt of water meadows where great herds of cattle graze, whilst the higher ground is largely ploughed and yields a good harvest of corn crops. Near the main centres of population the ploughed fields produce vegetables rather than cereals, but the whole area is closely allied with that of the Vale of York, of which it is in fact a continuation.

Charnwood Forest is a curious anomaly—a detached fragment

of older rocks which are in truth the oldest rocks exposed in Great Britain—rising unexpectedly between the Valley of the Trent and the limestone hills. Here the newer overlying rocks have been completely denuded and the older rocks in turn are themselves undergoing the same process. Short, springy turf, generous woods and abundant bracken are the chief scenic features of a district which is famous for its views over the surrounding lowlands.

Rural Industries. In all these counties a few rural industries survive apart from agriculture, which, in all except Warwickshire, still employs the bulk of the population. The limestone hills, since they have from time immemorial given abundant pasturage to sheep, also have been closely associated with the woollen industry. Until the middle of the last century, towns like Wotton-under-Edge,

Stroud, and Uley were famous for their handloom weaving. A survival is the manufacture of cloth at Stroud, although the wool is no longer produced from the Cotswold sheep. The limestone hills, also, yield quantities of iron ore in many districts, including parts of Northamptonshire and Gloucestershire, though the mineral is not so extensively worked as in the corresponding hills of north Yorkshire. The value of the building-stone quarries is adequately shown by its local use.

The apple orchards of the Vale of Evesham provide the raw material for the cider industry, which is of little less economic importance than the more famous one of Somerset. Oxfordshire has one ancient industry which has defied centralization. Blankets are still manufactured at Witney, and find the same ready market as formerly. Oxfordshire, too, is famous for its cattle markets such as those at Oxford, Thame, and Banbury, which are among the most important in all England.

The Vale of Aylesbury. The Vale of Aylesbury in Buckinghamshire, lying immediately under the escarpment of the Chilterns, was long well-known for the breed of duck which takes its name from the vale. Buckinghamshire lace also has been highly praised since the sixteenth century, its importance as a local industry being noted, among others, by Defoe, who was a great traveller in that county. Newport Pagnell, Olney, and Aylesbury are three of the principal centres, and, though the number of persons employed has declined materially, the industry is still carried on in some of the villages.

The neighbouring county of Bedfordshire is associated with the same industry. As in Buckinghamshire, there is a tradition that it was founded by Catharine of Aragon, who resided at Ampthill for some time before her divorce from Henry VIII. Additional weight is given to the legend by the fact that St. Catharine's Day is the traditional feast of the lace-makers. The straw hat industry of Luton stimulates the manufacture of straw plait, which is carried on in many of the surrounding



DARTMOOR

Fingle Bridge and the hanging woods which rise from either bank of the Teign
Photo. British Railways

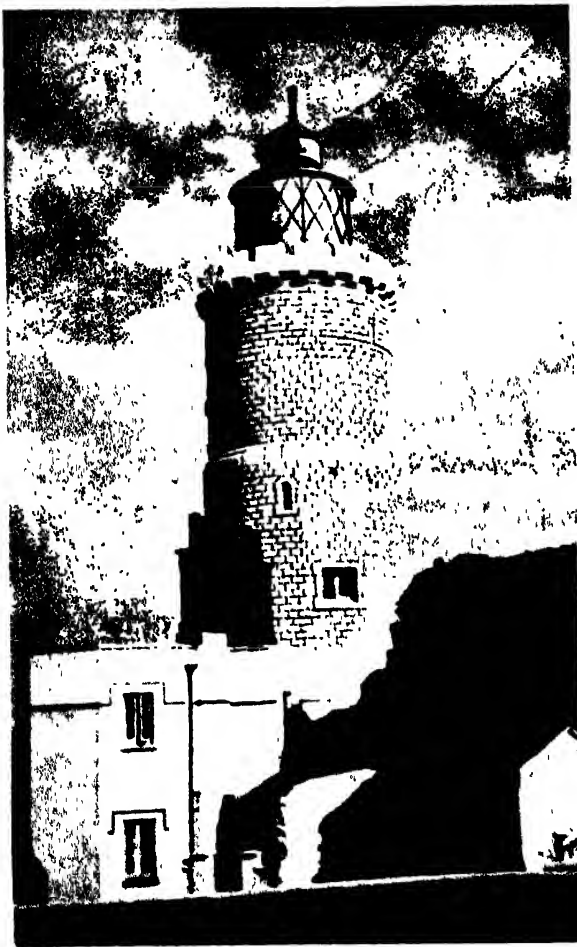
villages, even though most of this is now imported. The Valley of the Ouse, like so much of the Fen district, produces good crops of rushes used in making mats and baskets. The same is true of the Valleys of the Nen and Welland, but here the occupation has never been so fully developed.

Leather Tanning for Boots and Shoes. The excellence of the pasturelands of Northampton and Leicester has ensured the supply of many hides for tanning. It is natural, therefore, that the county towns should be centres of the boot and shoe industry. The supply is not equal to the demand, so that the greater part of the leather is imported, yet most of the local production is utilized. Thus tanning is an industry which has not appreciably declined.

Two interesting examples of centralization without transfer to another district are provided by the county towns of Nottingham and Leicester. Both have for 300 years been centres of the lace and hosiery business. With the advent of machinery, the rural aspect of the industry disappeared, but the towns remained the principal centres of the activity, and factories were established which employed the greater number of the workers who had previously been occupied in the surrounding villages.

The South-Western Counties

THE three south-westerly counties of England—Somerset, Devon, and Cornwall—form a scenic and economic unity. Apart from the extreme north, where the Valley of the Bristol Avon is industrialized, practically the whole area is rural. Moreover, though there



A MODERN LIGHTHOUSE

The Lighthouse on Start Point, one of the headlands most feared in the days of the sailing ship and still a source of potential danger

Photo: A. L. Lancefield

are numerous river valleys the ground is consistently high and gives the impression of a distinctly mountainous country, though the greatest elevations are never more than 2000 feet. Exeter, Truro and Taunton are three flourishing market and commercial centres. Plymouth is one of the most important ports of England. Penzance is another port which,

though of secondary importance to Plymouth, has come into prominence during the last century from its position at the rail head and its connection with the Isles of Scilly.

The High Moors. The two largest upland expanses are Exmoor in the north and Dartmoor in the centre; the former is partly in Somerset, partly in Devon, and exceeds 1700 feet at Dunkery Beacon. Dartmoor is the first of a series of granite outcrops continued in Bodmin Moor and Land's End in Cornwall and in the Scilly Isles to the south-west. The scenery of Exmoor, on the one hand, and the granite hills on the other, is surprisingly diverse. Exmoor is covered in a rich growth of heather and bracken with thickly-wooded combes and, on the north, upstanding cliffs rising abruptly from the Bristol Channel to a height of 700 or more feet. This is one of the few places in England where the red deer is found in a wild state, despite the fact that its scenery, allied with the literary interest of the Lorna Doone country, centred in the Valley of the Bagworthy Water, has rendered it a favourite holiday district.

On Dartmoor, instead of heather and bracken we find a coarse growth of rank grass covering a large tract of land where the contours exceed 1000 feet. To this must be added a number of boggy patches in the north which have proved fatal to a number of cattle, and even wayfarers. Vegetation is almost entirely lacking except in the valleys which fall away to the south, such as the Dart and Teign, where the trees are luxuriant and cling to the precipitous slopes of the gorges, through which the streams have cut their course. The level grey colouring of the moor has its counterpart in the granite-built towns of which Princetown is the largest. Towards the southern fringe of the moor, however, where the scenery takes added beauty from the woodlands, the villages are of great distinction. Widdicombe, famous for its Fair, is one of the more attractive, but less so than Buckland-in-the-Moor, which is smaller, but more perfectly composed.

Bodmin Moor is not so high as Dartmoor, rarely exceeding 1000 feet in elevation, but otherwise the dominant characteristics of the two are similar. River valleys are fewer and where they occur, such as on the road from Liskeard to Bolventor, they have some of the

fascination of the Dartmoor valleys. For the most part the attraction of the moor lies in its stern solitude and monochrome colouring.

Somerset Hills and Dales. The other hill ranges of the south-west are by no means insignificant. The Mendips, always well-wooded and relatively fertile, rise gradually from the Valley of the Bristol Avon and come to an escarpment which overlooks a broad valley, extending from Cheddar to Shepton Mallett. The Poldon Hills divide this valley from Sedgmoor and the Valley of the Parret—the most fertile valley of all Somerset, extending as a well-watered plain to the foot of the Quantocks, which themselves look westward towards the Brendon Hills and Exmoor. In Devonshire there is a broad, high valley separating Dartmoor from Exmoor; whilst the Valley of the Exe is a land of lush water-meadows and extensive cattle-grazing land. The Blackdown Hills rise to the east of the Exe and extend in a tumbled area to the hills near the coast, whilst to the south of Dartmoor the district known as the South Hams alternates between valleys and low hills cultivated to their summits. North-west Devon, the Valleys of the Taw and Torridge and of the Tamar, which flows into Plymouth Sound, together give another wide expanse of fertile country.

The Coastline of Devon and Cornwall. One of the most significant aspects of the scenery in all three counties is the coast. Except where estuaries interrupt them there are bold cliffs from end to end. These have been eroded and battered so that inlets and bays have been formed, giving, in conjunction with the varying quality of the rocks, a spectacular beauty. In the north the coastline of Somerset faces the Severn estuary, where, with the outflowing tide, the water is muddy as far west as Minehead. Beyond, the high cliffs of Exmoor give place to the lower but no less attractive cliffs of Morte Bay. Farther still, after the gap of the Taw and Torridge estuaries, there is Hartland Point and the flat-topped cliffs which line Bude Bay. Over the Cornish boundary, Trevoze Head and St. Agnes Head are two of the most outstanding promontories. The granite cliffs of Land's End, the most westerly point in England, have been worn away by rain and tide into a fantastic series of jagged pinnacles and rocks.

The south coast of Devon and Cornwall is still more indented. Among many coves which occur near the Lizard Point (the most southerly point in Great Britain), Mullion Cove and

Kynance Cove are two of the most beautiful. The many creeks of Falmouth Bay are often lined with tree-clad cliffs, and the estuaries of the Fal and Helston Rivers are similarly distinguished. In Devonshire the coastal scenery reaches its greatest perfection to the east of Bigbury Bay, in the bracken-covered cliffs of Bolt Tail and Bolt Head, the van-coloured hills of the Salcombe estuary and the steep cliffs of Prawle Point and Start Point. The red soil



WASSAILING.

A pagan custom, held annually in mid-January at Carhampton, Somerset, and at various places in Devon. "Evil spirits" are scared away by firing a gun through the branches of an apple tree.

Photo: Rexa Winstone

gives the cliffs of Torbay an added fascination, whilst even between the estuary of the Exe and the Dorset boundary, where generally the cliffs are lower and pastures come down to the edge of the downs, there are several bold headlands such as Beer Head, which exceeds 400 feet in height.

Intensive Cultivation. In spite of the steep contours of much of the country and the intractable character of the hill regions of Devon and Cornwall, each county is intensively cultivated wherever cultivation is possible. The apple orchards of Somerset are the foundation on which the fame of Somerset cider is

based. There are great herds of cattle in the Valley of Sedgmoor and, apart from corn crops, particularly oats and barley on the higher ground, thousands of head of sheep graze in the uplands. Sheep, too, are numerous on Exmoor and Dartmoor, whilst on the outskirts of Bodmin Moor—the most barren of all the highlands—the land is divided into small farms where stock-breeding and dairy-farming are carried on by hundreds of smallholders. As has been explained, fishing is less important than previously, but it remains important in many villages which nestle under the cliffs in every part of the coast, such as Clovelly and Port Isaac in the north; Mevagissey and Fowey in the south, all of which have attained a fresh prosperity through their scenic attraction.

A feature of the inland scenery in Cornwall is the number of stacks belonging to the tin mines, most of which have now been closed. These give the district round Camborne and Redruth, previously two of the most important centres, a curiously desolate air. In fact, the Cornish mining and stone-quarrying industries have both suffered a collapse from which it is doubtful if they will ever recover. The china-clay industry, however, continues to prosper in a few of the southern districts of Cornwall. It has been suggested that the tin mines have been worked since pre-Roman days, and that it was the working of these mines which made possible the prehistoric Bronze Age. It may even be true that St. Michael's Mount is the Iktis mentioned by the historian Diodorus as the port from which tin was shipped to the Roman Empire.

The Celtic People. The people of Devon and Cornwall, and particularly the latter, reflect their historical and traditional background derived from the Celtic strain which

predominates as opposed to the Anglo-Saxon or Teutonic strain in eastern England. The language shows two distinct dialects, that in the east being closely akin to the dialects of Devon and Somerset, that in the west showing many signs of Celtic usage. Particularly is this latter feature noticeable in place-names. The prefix "tre-" is derived from the Celtic for settlement; "-rose" has the meaning of moorland; "-pen" is the equivalent of headland. There was formerly a distinct language which existed as a spoken and a written tongue, being largely Celtic in character, and in some ways akin to the Welsh language; but apart from its effect on place-names and certain idioms of everyday speech, this has become extinct.

Traditional Observances. Certain of the local festivals and traditional observances peculiar to Cornwall may also have a Celtic origin. The best-known of these are the Furry Dance of Helston and the Harvest Festivals of west Cornwall. The festivities centring round the Maypole Dance are also much more widely spread than in other parts of the country. Until recent years it was the custom for neighbouring villages to contest a maypole set up on neutral ground between two villages, but the practice has ceased to be carried on owing to the bloody nature of the fights which took place to secure the possession of the maypole. Finally, the Hobby Horse Festivals of Padstow and Minehead may also be of Celtic origin, though there is little evidence to support the view. It is at least certain that the difference in origin of the Cornish country people from those of many other counties is still marked in spite of a growing uniformity, whilst there is a tendency to foster by artificial means the survivals and traditions which accentuate these differences.

ENGLAND—NORTH AND WEST

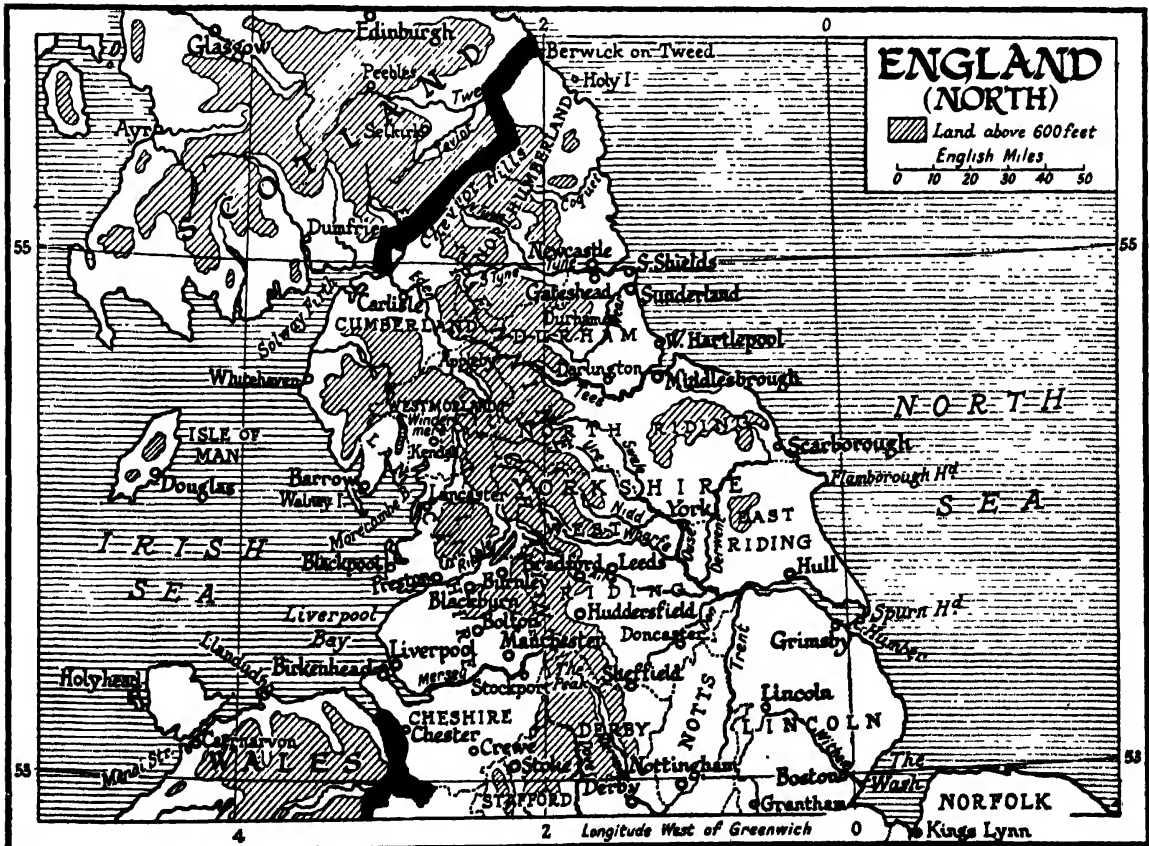
ENGLAND, north and west of the Severn-Humber line has been described as mountainous in contrast with the relatively slight elevation of the south and east. It does not, however, consist entirely of mountains and moors, but includes within its limits many fertile valleys and broad plains which rival the extent and fertility of the southern valleys.

Both in area and population this part of England is smaller than the south and east. In contrast with the rather even distribution of population in the southern counties, apart from London, we find the great majority in the north concentrated in towns adjoining the coal measures. The north and west too have a higher proportion of industrial workers than the south

and east, despite the presence in the latter of the industrial complex round London.

The Pennine Chain is the principal watershed of the north, and divides the north country into two uneven parts; from the high ridge the land slopes gradually to the sea on the east; more abruptly on the west, giving to the eastern counties a much broader plain than to the western ones. In east Yorkshire beyond the plain there are also extensions of the chalk and limestone hills of southern England.

The Pennine Country. The Pennine moorlands have their origin on the borders of Derbyshire, Staffordshire and Cheshire and rise to their first great eminence at the Peak in Derbyshire, whence they continue northwards through Yorkshire, not in a single broken





THE YORKSHIRE MOORS

A view of the North York Moors showing a densely wooded valley and the bare plateau on which grow only rank grass and heather

chain, but as an irregular series of scarps worn to their present shape by the action of denudation through hundreds of thousands of years. From the extreme north of Yorkshire the Pennines throw out a spur to the west—the Cumbrian Mountains of Cumberland and Westmorland, which contain within their volcanic peaks and ridges England's Lake District. To the east they throw out another mountain mass—the Cheviot—which forms the physical boundary between England and Scotland and from which radiate the moors of Northumberland and the Southern Uplands of Scotland.

The exposed rocks of the Pennines are chiefly gritstone and mountain limestone, the latter often pale in colour as in the Derbyshire dales, giving the impression of whiteness in one or two places.

The Welsh Marcher counties of Cheshire, Shropshire and Herefordshire also fall within this section, though they have a different physical formation. Generally hilly (except for the Cheshire Plain), but watered by broad rivers, they contain some of the most fertile country of the west and are intermediate in both scenery and productivity between the Midland Plain and the uplands of eastern Wales. They share with the North and East Ridings of Yorkshire the distinction of being the only parts of this area in which the rural scene approximates to that of south-eastern England.

Centres of Population. The chief centres of population are in the cotton towns of

Lancashire, centred round Manchester and connected with the port of Liverpool; the woollen towns of the West Riding of Yorkshire centred round Leeds and Huddersfield; the pottery towns of Staffordshire, centred round Stoke; and the mining and shipbuilding towns of Newcastle and district. In addition, there is an intense grouping of the population round the mouth of the Tees where Hartlepool, Middlesbrough, Stockton-on-Tees and Darlington are within a radius of twenty miles. For the rest, the population centres are chiefly the county and market towns, the largest being in the fertile Vale of York and in the Welsh Marches. York itself, Chester, Shrewsbury, Hereford and Lancaster are flourishing administrative centres which derive the greater part of their prosperity from their position as the distributing centres of the agricultural land in which they lie. Carlisle (see Chapter II) has a special place as the point on which the main west coast routes to the north converge.

Cumberland and Westmorland. The counties of Cumberland and Westmorland contain within them almost every variety of scenery and condition. The Pennine moors lie on the east, extending from the Scottish border into Yorkshire. In north Cumberland the moors fall gradually towards the lowlands which fringe the Solway Firth—the district known as the Abbey Holme—where, though much of the land is cultivated, there are still marshes which have not been reclaimed and a few districts such as the Solway Moss which are unsuitable for intensive cultivation.

In the centre of the two counties the Cumbrian Mountains are the most imposing mountain mass of England. Scafell and Helvellyn rise dramatically from the general level of the lesser mountains to a height of more than 3000 feet above sea-level, whilst the rounded summit of Skiddaw reaches a similar elevation. To the west of the mountains again there is a narrow coastal strip—the richest part of the country—where coal measures have been worked and a minor industrial area has been formed in the district round Maryport and Workington, with a considerable shipbuilding industry.

The chief beauty of the mountains is in the tumbled array of the peaks and in the deep-set valleys which contain numerous freshwater lakes. Some of these lakes, such as Windermere, are of considerable extent and of a depth and size sufficient to allow pleasure steamers to ply on their waters. Others, the tarns of the moorlands, are only a hundred yards or less in diameter, but have all the beauty of the larger lakes in miniature. Windermere is in fact the largest inland body of water in England—ten miles in length and from half a mile to a mile broad. Ullswater has only a slightly lesser volume, whilst Coniston Water, Derwent Water and Crummoch Water are others of notable extent. One of the loveliest of all is Wastwater which lies below Scafell, and which is bounded on one side by a sheer rock wall more than 1000 feet in height.

Diversity in the agricultural interests of the counties follows from the diversity of the scenery and the changing nature of the soil. Practically



TIMBER-FRAMED HOUSES OF SHROPSHIRE
The Guildhall at Much Wenlock, with covered market beneath
Photo British Railways

the whole of the mountair district is given over to sheep-walks. In addition to extensive local breeding, thousands of lambs are introduced every year from the sheep pastures of Scotland's Southern Uplands and from the Highlands. It is estimated that over 1,000,000 sheep range the Cumbrian Mountains during the summer months.

Enclosure of the fells only commenced in the middle of the last century, resulting, as elsewhere, in the diminution of yeoman farmers. As compensation large tracts of land previously uncultivated were brought into use and the prosperity of most of the valley farms was increased. Around Carlisle there is grazing for many fine herds of cattle and here dairy-farming has become a flourishing occupation. The finest farming country in both counties, however, lies between the Cumbrian Mountains and the coast, where it is common to see corn crops, vegetables and cattle in adjacent fields, and the productivity of the soil is manifest. In recent years the Forestry Commission has turned its eyes towards the Lake District, and, though persuaded by nation-wide protest from the suggestion to plant Douglas firs in the most beautiful of the Cumberland valleys, is progressing steadily with the work of afforestation



THE CHESHIRE PLAIN
A view of the Dee near Eccleston
Photo: The Town Clerk, Chester



LAKELAND SCENERY

The Langdale Pikes seen from Tarn Hawse, near Ambleside
Photo British Railways

for which Cumberland fells have been found suitable. The work will no doubt ultimately change the face of the country.

An important factor in preserving the integrity of Cumbria as a characteristic region is the absence of lateral communication. As in the west of Scotland it is often necessary to make a journey of many miles to pass from one village to another situated on the farther side of a mountain ridge. Perhaps as a direct consequence the people of Westmorland and Cumberland have been conservative in their adoption of new ideas and slow to take advantage of the benefits of easier communication.

The most tangible evidence of this is in the numerous superstitions and local customs which have survived when similar institutions have disappeared from other parts of the country. Funeral and marriage customs peculiar to the district are often noted. It is a custom for the sons of a dead peasant to carry his body and lower it into the grave, the highest honour which a family can pay to the dead and which in the absence of sons falls on the nearest male relatives. Collection of rope money at weddings is also occasionally observed. The rope is stretched across the road between the church and the destination of the bridal couple who are required to pay a fine in order to have free

passage. Beating the bounds is observed in many parishes, whilst Appleby, Kirkby Stephen and Penrith retain the old custom of ringing the Curfew. Finally, the rush-bearing festivals of Ambleside and Grasmere have attracted so much attention that they are unlikely to be discontinued, whilst the Easter football match at Workington, in which an indefinite number of players partake and the goals are situated a mile apart, is a survival of a medieval contest which may have originated in Norman times or earlier.

Northumberland and Durham. The most characteristic scenery of Northumberland and Durham is associated, like that of Cumberland and Westmorland, with the high ridge of the Pennines which, with their extension to the Cheviots, cover almost half of Northumberland and the whole of the western part of County Durham. Even as far south as the line of the Roman wall, from Newcastle to the Solway Firth, moorlands dominate the scene.

The Roman wall marks a division in the county as real as the county boundary. Northward the country traditions are of the 400 years of border warfare which preceded the union between England and Scotland. South of the wall the traditions are the purely English traditions of the northern counties. Like Offa's

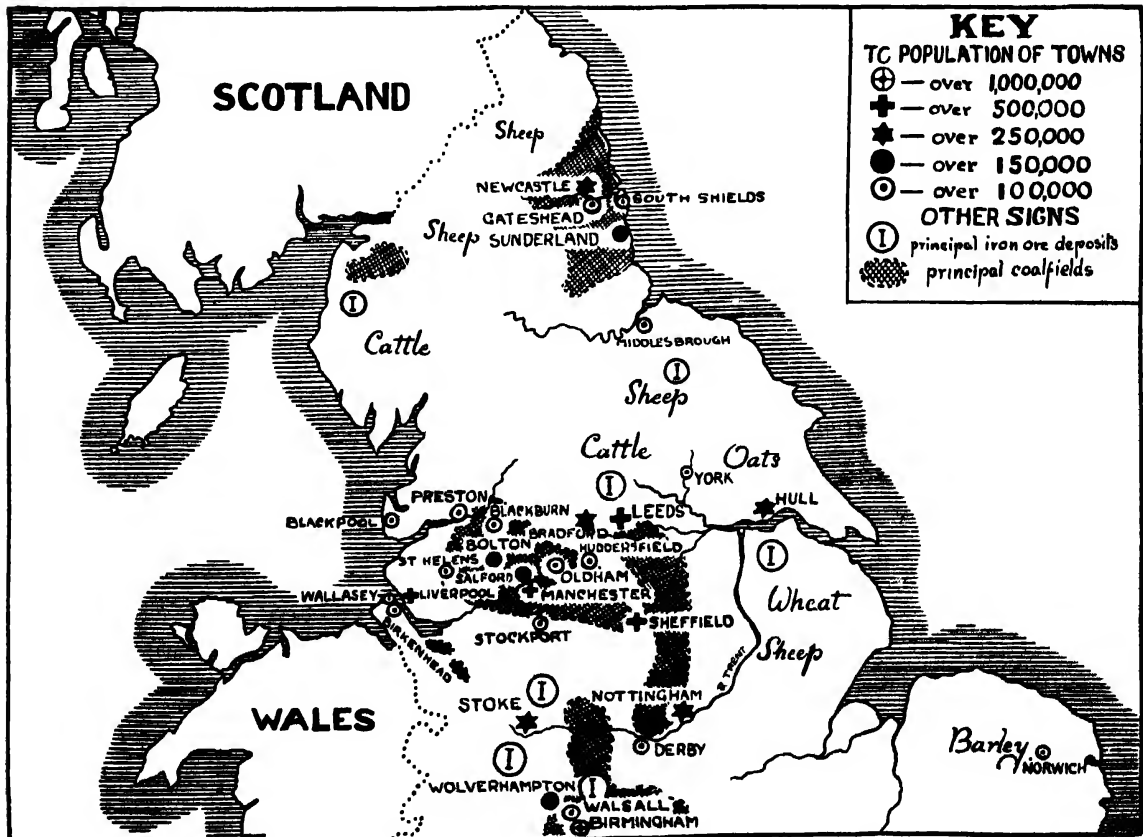
Dyke, which is a more effective boundary between England and Wales than the political one, the Roman wall is the true boundary between the traditions of England and the traditions of Caledonia. The River Tees, which divides Durham from Yorkshire, is another boundary which has more than a local significance; for County Durham (the only county thus styled) has all the pride of the history of the County Palatine, whilst Yorkshire, though it contains four distinct types of country and soil, is a unit complete in itself, almost a world divorced from the surrounding counties. Northumberland and Durham contribute good land suitable for intensive cultivation only in the Valleys of the Tyne and Tees, apart from the coastal strip, where there is the usual alternation between arable and pasture, and market-gardening is carried on to serve the industrial towns of Tyneside. Coal-mines are worked in the eastern districts, Newbiggin being an unusual mixture between a mining-town and an embryo holiday resort—an incongruity of character which is not matched by any other town in England.

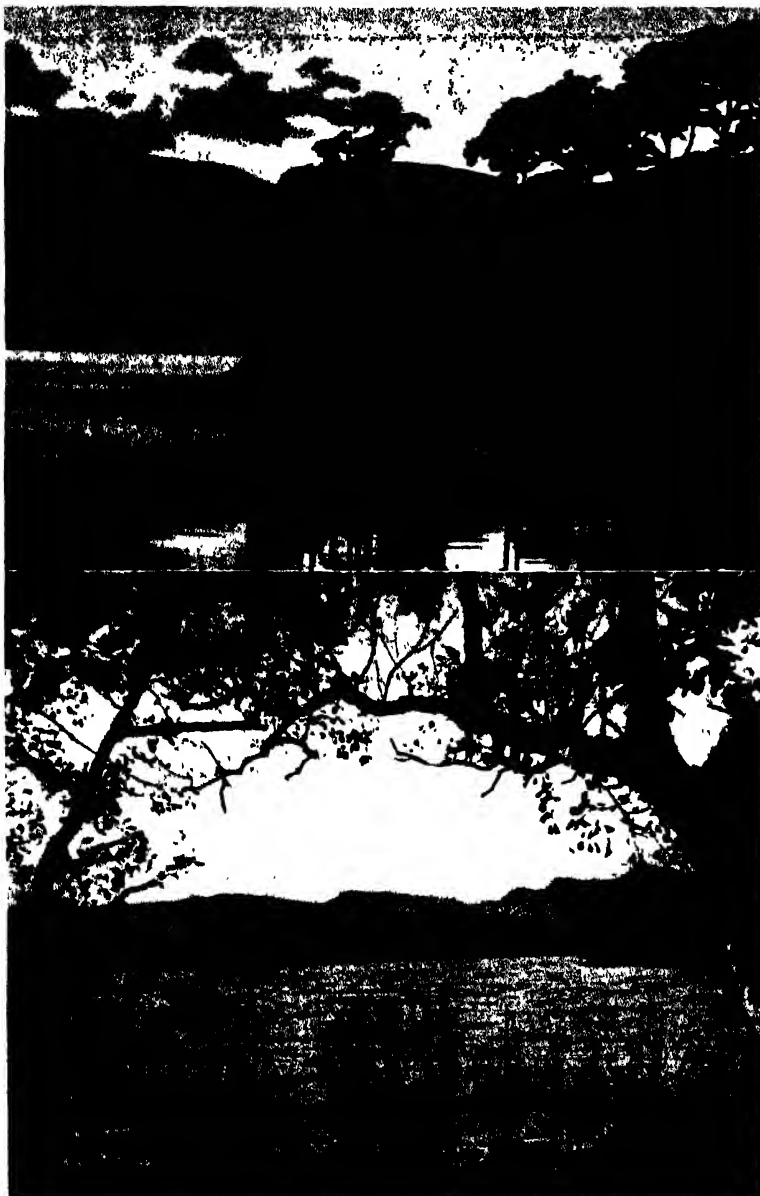
The reaches of the upper Tyne, where the main stream and its tributaries lead into the

heart of the Pennines, has a singular beauty, and economic value in addition; for here the sheep on the hills are almost as numerous as those in the neighbouring county of Cumberland. Even so, the high moors are often covered in rank grass which yields but poor pasturage and there are hundreds of square miles of peat bog which produce nothing but fuel for the peasants.

County Durham is predominantly industrial, and little more than one in 300 of the population is employed on the land, and less than one-sixth of the total area is suitable for the production of crops.

The western moorlands present a series of contrasts which is admirably seen on a journey along the road from Middleton in Teesdale to the town of Alston on the borders of Cumberland. On the right bank of the river the land belongs to vast shooting estates where grouse are reared for the sport of industrial magnates from the Tees-side and Tyne-side towns. Here the only houses are occasional prosperous shooting-boxes, and the only inhabitants the game-keepers. As the road rises towards the pass the left bank of the stream presents a very different picture, for here the land is broken





WESTMORLAND

Above Friar's Crag, one of the National Trust properties. *Below*, Windermere, England's longest lake, and the Langdale Pikes

Photos: A. N. Wells

into numerous smallholdings reminiscent of the crofters' holdings in Scotland, tiny farms torn from the inhospitable breast of the moorlands which yield a poor pittance to the farmers.

The poverty of these smallholders is akin to that experienced when unemployment was rife in the industrial towns. Their homes are single storied, white-washed buildings; their sole means of livelihood the poor crops which the land produces and the few cattle which

they are able to rear. The road from Middleton to Alston is often blocked by snow; the tracks which lead from the main road towards the smallholdings are still more often blocked, sometimes for a month or more at a time, so that the farmers during the summer and autumn lay in a supply of food to last them during the winter if the necessity arises, as it often does; for there is no means of communication except the road, and little chance of their being able to clear the way to it, even when through-traffic can proceed. It is doubtful if any other part of the British Isles can show a greater isolation or a livelihood from the land more hardly won.

The change in scenery which this road displays is almost as striking as the change in conditions. Below Middleton the Valley of the Tees is broad and the scene lightened by woodlands which, though not of great extent, are enough to show the productivity of the soil. Above Middleton the valley gradually becomes narrower and the woods less frequent until, after High Force, one of the most impressive waterfalls in the north, where the Tees leaps 100 feet down a sheer rock face, the trees disappear entirely and the strip of green meadow marking the course of the stream is gradually replaced by an amorphous bog. On the high slopes mile after mile of bog stretches as far as eye can reach, with not a habitation nor an animal in sight—a scene

infinitely more dreary than that of the southern Pennines or the most barren of Scotland's moorlands.

Durham in the Middle Ages was known for the number and importance of its rural industries. The only survival of these is the manufacture of glass, all the manpower being employed in the coal-mines, the iron and steel works, the shipbuilding yards and the quarries, where limestone and whinstone are raised.

Local stone is largely used for building



THE YORKSHIRE COAST

The village of Staithes between Saltburn and Whitby

Photo. E. F. Davis

purposes, a fact which has greatly influenced the appearance of the villages not only of Durham, but of the other three northern counties. In Cumberland and Westmorland, for instance, the houses of all the villages and many of the towns owe their characteristic colouring to this cause.

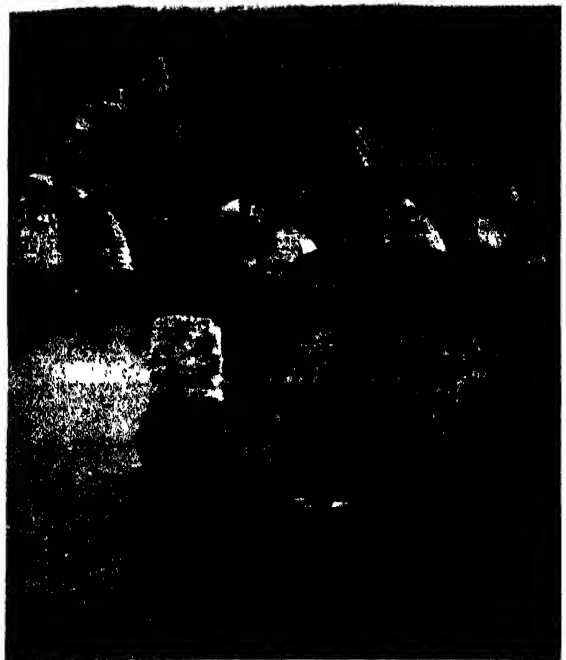
Yorkshire. It has been pointed out that the Tees is a dividing-line between natural regions. There is additional evidence for this in the fact that north of the Tees the beehive type of haystack is universal—a type which persists throughout Scotland, even to the Hebrides and the Shetlands, whilst south of the Tees the rectangular type common in southern England prevails. That is only one of many distinctions between Yorkshire and the counties farther north; the dialect is different, and the Norse influence, which appears strongly in the fishing villages of east Yorkshire, seems lacking in Durham and Northumberland, where it is less apparent in the appearance of the people and in its influence on place-names and dialect.

In this connection it is interesting to note that the Northumberland dialect is more akin to that of southern Scotland than to those prevailing in other parts of northern England. To quote only one example, a common name for stream is burn, not, as one might expect, beck.

In scenery and production the Yorkshire scene falls into four well-marked divisions. The western half is occupied by the Pennines, where the Aire Gap divides the moors of the north Pennines from those of the south. Great Whernside, Ingleborough and Mickel Fell are three of the highest points in Yorkshire, each exceeding 2300 feet. The moors fall gradually to the east where they form parallel ridges

divided by the streams which have made the beauty of the Yorkshire dales more famous than that of the moors themselves. Of these streams the Swale, Ure, Wharfe, Nidd and Aire, drain into the basin of the Humber. Each valley has its prosperous market towns, many of them on the sites of Norman castles and, since early medieval days, the social and commercial centres of the valleys which, in contrast with the higher ground, are intensively cultivated. Thus Richmond is the natural centre of the Valley of the Swale; Hawes and Ripon of that of the Ure (more commonly known as Wensleydale); Ilkley of that of the Wharfe.

The second great division of the county is the Vale of York, with its extension the Vale of Pickering, itself an extension of the great valley which traverses central England. Here farming is practically the only occupation, except in the market-towns, such as Selby, York, Thirsk and Northallerton. Nine-tenths of the land of the East Riding is cultivated and nearly 95 per cent of the Vale of York. The low-lying ground is admirably suited to cattle-breeding and dairy-farming, the latter having increased apace in the neighbourhood of York and in the woollen towns of the West Riding.



FLAMBOROUGH HEAD

The point at which the Yorkshire Wolds (last link in the line of chalk hills which extend from the Dorset coast through south-central England and Lincolnshire) reach the sea

The other natural division of Yorkshire, that lying to the east of the Vale of York, is hilly, though not so high as the Pennine district. In the north the Cleveland Hills (North York Moors) form a broad expanse of upland country which rises abruptly from the Vale of York and stretches to the cliffs which border the coast between Scarborough and Whitby. Flocks of sheep find pasturage, but the wealth of the land lies in the mining of iron ore rather than in its agricultural products. In the East Riding the wolds are the most northerly chalk hills of England, like the North York Moors rising abruptly from the Vale of York and extending to the cliffs at Flamborough Head, thus completing a line of chalk hills which extends from the Dorset coast, and is only broken by the Wash and the Humber. The sheep pastures of the Wold are much richer than those of the Cleveland Hills where horses are the most important stock, the Cleveland district having given its name to a well-known breed.

Finally, mention must be made of the fishing villages among which Robin Hood's Bay, with its incredibly steep street leading down to the harbour bar, is almost as much a museum piece as its Devon counterpart, Clovelly. Some, like Whitby, combine the fishing industry with the new industry of catering for holiday-makers; in others, like Scarborough and Bridlington, the importance of the latter industry far surpasses that of the former.

Yorkshire is the only county divided into thirds or thirdings, a word perverted into



THE MILL HOUSE
A half-timbered mill house near Clun, Shropshire
Photo: Len Gurl

Ridings. Each for administrative purposes is reckoned as a separate county; whilst the City of York is a county of a town. The administrative centres of the North, East and West Ridings are Northallerton, Beverley and Wakefield respectively. But there are other divisions in Yorkshire which have no less significance for the people, such as Hallamshire or Richmondshire, marking the boundaries of the medieval manors and remaining self-contained agricultural units. Hallamshire, which comprises Wakefield and Halifax, for long had a separate jurisdiction.

Lancashire. Though Lancashire adjoins Yorkshire it is vitally different in industry, scenery and people. There are cotton mills in the extreme south-west of Yorkshire; that is virtually the only link between the two. Physically, and until recent years socially, the county falls into three well-marked divisions: Furness, which belongs in history and in geology to the Lake District; the area north of the Ribble which has Lancaster for its centre; and the rest of the county which contains centres such as Manchester, Liverpool and Wigan.

In the Furness district there is sheep grazing on the hills and slight cultivation in the valleys, and great scenic beauty, especially round



WINTER IN THE PENNINES
Farmers clearing snow in the main road from Chapel-en-Frith to Sparrow Pit
Photo: H. E. Ills



A PENNINE WATERFALL

Thornton Force, near Ingleton in the West Riding of Yorkshire

Coniston Water. The country north of the Ribble is almost entirely agricultural and, though the soils are various and thin in the eastern part where the land rises to the Pennines, mixed farming is carried on with great success by yeomen whose holdings are on the average little more than half the size of the average holdings of England and Wales. South Lancashire is a strange contradiction. The greater part of the area, except where it adjoins the Pennines, is rich agricultural country, with a clay soil similar to that of the Thames basin. But the cotton towns have placed agriculture in the background, so that generally farming is only pursued on the outskirts of great towns and in the coastal strips south-west of Wigan. Market-gardening and dairy-farming are naturally the principal occupations on the land in a country which is called upon to supply such a vast industrial complex as the cotton towns.

The coast of Lancashire rarely attains real beauty except in Furness, the greater part of the remainder being flat, though with extensive stretches of sands on which the modern resorts of Blackpool and Southport have been built.

Lancashire men have been called dour. There does seem to be an element of traditional melancholy in the characteristic temperament of the cotton towns, perhaps consequent on the (mechanized) work and uninspiring surroundings of the cotton mills. Yet a visitor to Blackpool, Lancashire's favourite resort, during Wakes Week would be convinced that beneath the unjoyful exterior there lurks a real sense of fun and high spirits: no other part of England, no carnival, can show such a will for enjoyment.

Derbyshire and Staffordshire. The centre of the Derbyshire uplands is the Peak of Kinder Scout - no uprising peak, but a flat basin, boggy in parts, and composed of millstone grit, which has been broken off abruptly in places, giving a real distinction to the landscape where these "edges" stand out boldly from the hills. Farther south the underlying rock is mountain limestone which, being softer than the grit, has been moulded into the characteristic valleys of Derbyshire. An added beauty is given to the scene by villages and manor-houses, such as Haddon Hall and Chatsworth House, built of local stone and toning perfectly with the scenery.

Round the town of Derby the valley broadens and forms virtually part of the Midland Plain.



LAKELAND FELS

Chapel Stile, Ambleside, showing the typical stone-built houses and stone walls toning with the fellside
Photo: British Railways



DERBYSHIRE

Above Stone bridge near the head of Berrisford Dale. Below Matlock Bath
Photos British Railways

Here there is wealth in the land; pasture for cattle and soil suitable for garden crops.

Staffordshire, like Derbyshire, falls naturally into two regions—the uplands of the north-east where Dovedale divides Derbyshire from Staffordshire; and the lowland district which belongs to the basin of the Trent and covers the remainder of the county. Staffordshire's industries are so dominant that attention has been diverted from husbandry. Not only is coal produced in the north and south of the county,

but iron ore is mined, and limestone and sandstone are quarried, whilst the pottery industry, once centred in Burslem, but now giving employment to the majority of the work people in Stoke and surrounding towns, utilizes large deposits of clay which is raised for this purpose. The iron and steel industries of the Black Country, the breweries of Burton and the silk industry of Leek are all well-known. Even so the pastures of the Trent Valley produce much of the milk and stock to feed this vast industrial population, whilst on the higher ground potatoes and other vegetables occupy a larger area than the corn crops.

The Welsh Marches. Cheshire, Shropshire and Hereford form a unity derived from history rather than physical characteristics. The greater part of Cheshire continues the plain of southern Lancashire. The Valley of the Dee, of which Chester is the natural centre as well as the administrative capital, is one of the most fertile valleys of England. Shropshire and Herefordshire are purely agricultural, with large numbers of cattle in the Valley of the Severn and one of the most famous cattle markets in the world at Shrewsbury, whilst sheep are raised on the higher ground of central Shropshire and Herefordshire.

The market towns are the centres of social life in a country which is notably prosperous,

where the farms are of moderate size and the life of the farmers and peasants relatively easy.

In the folk-lore of the country the key-note is set by the tales of ruthless aggression on the part of the Marcher Earls in the Middle Ages who harried the country, and were regarded as interlopers for two or three centuries after the rest of the country had come peacefully under Norman influence. It is, naturally, in keeping with the tenor of the country that many rural industries should persist.

WALES

(WITH MONMOUTHSHIRE)

IN scenery, tradition, race, and temperament, Wales is set apart from most of Great Britain. Nowhere else has the character of the soil and the contours of the land determined so precisely the activities of the countryman. In no other part of Britain are Saxon and Norman influences so insignificant. It is surprising enough that Welsh should have survived as a written language in a country which has no geographical definition and depends for its insularity on the temper of the people and the character of the land. It is still more surprising that Welsh should have survived as a spoken language among the Celtic inhabitants, particularly among the shepherds and crofters of the hills, who, in many instances, speak no other language than Welsh.

The Welsh Scene in Outline. The traveller through Wales from east to west will note three distinct types of country which maintain their parallel lines from north to south. First there are the valleys of the long rivers which define the Welsh Marches—the Dee, the Severn, the Wye and the Usk, and their many tributaries, which reach into the foothills of the mountains. The farther west he goes the narrower are these valleys, the more imminent the hills. Yet their character does not change. Their pastures are divided into small fields closely hedged and picked out with hedgerow timber, mingling with the recent woodlands which have been planted on much of the higher ground.

Towards the centre of the country the valleys give way and their place is taken by unen-

closed rank pastures which stretch away for mile after mile and rise to the summit of the Cambrian Mountains, rounded and grass-covered in the south, rocky and precipitous in the north. On the western side of the mountains the land drops steeply to a plateau of varying width, drained by streams which flow swiftly into Cardigan Bay through sharply-cut fissures in the rocks, which are here the oldest in Wales. The land is cultivated again and corn crops make their appearance here and there, but, except along the course of some of the valleys such as that of the Dovey or the Barmouth



Estuary, the land is poorly wooded. Where the plateau is extensive, the country seems more English than Welsh, particularly in the south, where Pembrokeshire has been aptly called "A little England beyond Wales," and closely resembles in its inland scenery, its coastline, and its virtually treeless hinterland, Cornwall, which faces it across the Bristol Channel.

The Eastern Valleys. Each of these three parallel belts has its individual qualities. The land and the people alike are homogeneous within each belt, but are entirely dissimilar one from another. The eastern belt is a continuation of the "Marcher" country. There is, in fact, no natural boundary between the Welsh Marches and Wales proper, any more than there was when the Saxon King Offa built a great dyke from Dee to Severn, many parts of which survive near Oswestry and Montgomery, and mark the division more clearly than the modern county boundaries. In the south there is the more fertile and now industrialized Vale of Glamorgan, and in the north the fertile Vale of Clwyd—the twin granaries of Wales. For the rest, there is signal beauty and a moderate fertility in every river valley.

The long course of the Severn begins within

a few miles of Cardigan Bay and has carved a broad and tortuous course through Montgomery into Shropshire. The Wye flows through a narrower defile and more steeply, so that its course is interrupted in the upper reaches by numerous rapids and tiny waterfalls where some ledge of harder rock has defied the process of denudation. Nearer its mouth it becomes the only natural dividing line between England and Wales, but, even there, its course is still narrow, and added beauty is given by the hanging woods which line its banks. The Usk has much in common with the Wye, though its course is half as long as that of the former river. Where it flows past Brecon and Abergavenny, the narrow belt of pasture is as green and lovely as any in Wales. The Valley of the Dee is to the north what the Valley of the Severn is to the south. The Clwyd has something in common with the Usk in its shorter course and its narrower valley, but exceeds it in the fertility of its land and the wealth of the country it drains. Often in these eastern uplands the land is hedged to the very summit of the hills which, with their trim hedges, present the same chequered pattern and rich colouring of the hills of south Devon and Dorset and particularly of those vari-



RIVERSIDE PASTURES
The Conway Valley at Tal-y-Cafn
Photo: British Railways



A MOUNTAIN VALLEY
Beddgelert and the Snowdon range

coloured rolling hills which stand on either side of the Vale of Marshwood.

Mountains of Mid-Wales. The scene changes as we approach the main ridges of the mountains, for there is no single watershed like that of the Pennines, but rather an apparently unordered succession of single mountains and mountain ranges. Snowdon, Cader Idris and Plynlimon rear their heads above the surrounding peaks, but they are each the centre of a dozen outstanding hills which differ little from them in elevation. Thus Plynlimon reaches 2468 feet, but there is another peak a mile away which exceeds 2400 feet and three other points of about 2000 feet and at least ten within a radius of six miles which exceed 1800 feet. Cader Idris, the summit of which is reached easily by the Fox's Path from Dolgelly, is more prominent. There is a steep drop on the north from a rocky ledge which at its highest point surpasses 2900 feet. Snowdon, the highest mountain in England or Wales, attains 3560 feet, but within a few miles there are four peaks of over 3000 feet and unnumbered points exceeding 2000 feet. Thus the effect upon the wayfarer who travels over any of the passes, is of being in the centre of a great plateau from which a number of isolated hill-tops rise above the general level to make

each valley a self-contained unit, shut off completely from the next valley which may be only a mile away.

Though these points of resemblance between the chief mountain masses appear, there is no real similarity in their scenic character. Snowdon is a bare crag. Scattered rocks are spread down its sides; the volcanic action which gave it birth and the cutting force of the glaciers which moulded it are apparent. Rough grass reaches to the summit of Cader Idris, but even there the summit is rocky and forbidding, though the view on a clear day from both Cader and Snowdon is more kindly; for it encompasses the green valleys which extend towards the sea, and the numerous lakes which are formed in some of the upland hollows, many of which have been scooped out like the Llyn-y-gader on the northern slopes of Cader Idris by the force of glacial action. By contrast, Plynlimon is grass-covered almost to the summit, and only where the drop is steep are the underlying rocks exposed.

The great mass of the Brecon Beacons, farther south, is covered in rank grass which on all but the highest slopes gives a rough pasturage for sheep. Here, too, there are many lakes and tiny waterfalls lining the valley which ascends from Talybont-on-Usk to



SHEEP PASTURES

Mounted shepherds on the slopes of the Brecon Beacons

Photo At Night

Torpantau towards the summit of the Beacons where the pass first crossed by a Roman road passes beside the second highest of the peaks.

On the south of the Beacons which are the centre of an extensive plateau known in part as the Black Mountains, elsewhere as Fforest Fawr, the hills break up into a dozen valleys extending north and south in parallel lines. It is here that the coal measures have been worked and the beauty of the mountains is spoilt by the pitheads, the slag heaps and blast furnaces of the Ebbw Vale and the numerous other valleys which each carries its railway line connecting with the ports of Cardiff or Swansea.

The Coastal Plateau. The coastal plateau to the west is more kindly, but still not over-generous in its production. The high-set land and the heavy rainfall militate against the full use of the soil. Even so, with a few exceptions, as where the Prescelley Hills in Pembrokeshire exceed 1500 feet, every field is worked, though it is inevitable that pasture land should predominate at the expense of ploughed fields.

The whole coastline from Pendine in Carmarthen Bay to Aberystwyth in the centre of Cardigan Bay is bounded by cliffs, broken only where the short rivers have cut their way to the sea, but indented round the coast of Pembrokeshire by hundreds of rocky coves in the

same tradition as the south-western counties of England. There are sand dunes about the Dovey estuary and northwards towards Towyn, and again between the Barmouth Estuary and Harlech, but the cliffs are resumed farther north and extend round the Pwllheli Peninsula. Nor are the mountains ever far from the sea, until the point is reached where the Vale of Clwyd broadens into a belt of lowlands where the North Wales holiday resorts have been built on the sands and about the estuary of the Clwyd. Colwyn Bay, Rhyl, and Prestatyn are the largest, but there is now an almost continuous succession of small towns comparable with the twentieth-century development along the south coast of Sussex.

Historic Background of the People. It has been well said that a whole nation cannot

be indicted. Yet in the case of Wales so many influences have worked to mould a national character as distinct from that of England and Scotland that several wide inferences can be drawn which throw light on Welsh customs and the manner of their rural life. Their present is inseparable from their past, which has witnessed long continued struggles for independence and is reflected in their modern independence of outlook, their conservatism in methods of working the land, and their radicalism in politics.

The whole of eastern Wales was permanently influenced by the efforts which were made by the Norman kings to subdue this part of the country. The method adopted was to give certain of the barons plenary powers to conquer and hold any land of the Welsh which they could subdue. Removed as they were far from the seat of government, these Marcher Earls, as they came to be called, attained a power equivalent to that of a petty sovereignty and from the stronghold of their castles brought fire and sword into the homes and fields of the countrymen. Fitzhamon at Gloucester, and de Braose at Abergavenny were two whose memory is most vividly recalled. But there were Marcher castles at places as wide apart as Chester, Shrewsbury, and Chepstow. Of



THE COAST OF SOUTH WALES

The indented coastline and flat top of cliffs of the Brecknockshire

Photo: The Times

de Braose the tale is recorded that on a punitive expedition he was once captured by a Welsh chieftain and held to ransom. When the ransom had been paid and de Braose was restored to his people, he made the chivalrous

gesture of inviting his captor and his head men to a feast in the castle. The latter accepted his invitation, but when the festivities were at their height a body of soldiers entered the Great Hall, fell upon the guests, and murdered



THE COAST OF ANGLESEY

The rugged rocks and cliff top, near Amlwch

Photo: British Railways



A FORTRESS OF MEDIEVAL DAYS

Harlech Castle, which dates from 1281. Snowdon's peak can be seen on the horizon

Photo Rice Winstone

all except one, whom, legend relates, survived to pass on the tale. Like many similar stories of barbarous atrocities, this tale does not bear the stamp of truth, but it illustrates well the attitude of the Welsh to the Norman barons who were imposed upon them—an attitude which was maintained towards the later English kings and makes the countrymen of eastern Wales more conscious of their national unity to-day than the hillmen farther west, who would naturally be expected to be more insular.

This legend has particular aptitude, for it shows the horror felt at any breach of hospitality, as always in a country where poverty is often upon the land, where the holdings are small and the welcoming of neighbours is an economic as well as a social obligation.

Many of the Welsh chieftains—Owen Glyndwr among them—have become national heroes whose lives, devoted to struggles for independence, are the subject-matter of innumerable tales handed down by word of mouth and more recently taught in the town and

country schools. In the same way the early Scottish kings and the leaders of medieval risings are held in patriotic esteem by the Scots.

The Welsh Language. No factor has been more powerful in retaining this social heritage than the survival of the Welsh tongue. This language will now never die as the language of literature, even though it ceases to be spoken in everyday life. The National Eisteddfod has taken a grip on the imagination of the people and draws more and more to compose and recite in the native tongue. Great antiquity is claimed for the Eisteddfod, the accompanying rites being supposed by many, but erroneously, to be derived from the worship of the Druids—the religion which was current in the centuries preceding the Christian era. It is significant that contemporaneously with revival of interest in this form of national expression, two most important ideals have been achieved—the establishment of a Welsh National Library and a Welsh National Museum: the

former situated at Aberystwyth, the latter at Cardiff. Interest in literary endeavour has gained further impetus from the fact that the Welsh, whether from the valleys or the mountains, show a natural aptitude for song, whilst the work of the Welsh bards, traditional to the country since early Celtic times, has had great influence in developing the gift.

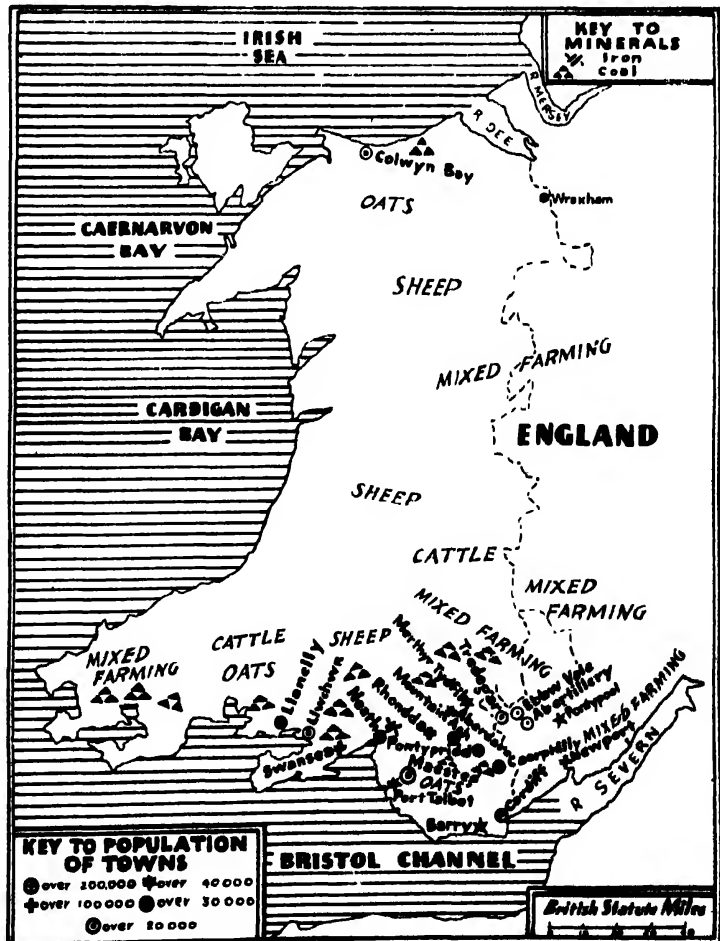
Working the Land. Many investigations into the agriculture of Wales have evolved a recognition of the fact that the problems are vitally different from those of England. Except where the Feudal System was introduced in the area bordering on the Marches in the Vale of Glamorgan and in Pembrokeshire, the system of working the land has always been completely different from that current in other parts of Britain. In England, work on the land has centred round the village, with the manor-house and the church as the basis of its activity. In Wales, until recent times, village life was practically unknown; even to-day, the manor-house, so typical of the English countryside, is conspicuous by its absence.

The explanation of this anomaly is that by the Norman custom the land passed from father to eldest son, whereas in Wales the system of gavelkind was in operation until the time of Henry VIII, allowing for the division of a man's property among all his sons. A similar system was in force in Kent, east of the Medway, and resulted in much the same consequences. Where flocks of sheep or herds of cattle were in question and the grazing ground was unlimited, the system worked well, tending towards the equalization of wealth and the prosperity of all the members of a family; but where enclosed land was concerned, the continued subdivision of the property led to a great number of small holdings, each scarcely adequate to support a man and his family. Even though many renounced their rights, the effect is still clearly marked in the typical small homesteads of the Welsh scene, scattered over every

fertile corner of the country and the relative absence of villages of any antiquity.

The consequent poverty led later to the practice of "squatting," which was never recognized in law but was accepted by custom and has only recently ceased to operate. It was most frequent in Radnor and Montgomery, the accepted practice being to build some sort of hut overnight and light a fire in the morning, this latter being considered to give a freehold right to the land enclosed. A notable feature of this system was the development of vast areas of relatively poor land on the highest ground which otherwise might never have been reclaimed.

Landlord and Tenant. Although with the disappearance of gavelkind the English idea of landlord and tenant gradually gained ground, it was never successful, and the links which have always existed between the English landlord and tenant, derived from the Feudal system, were conspicuously absent. Much of





THE RIVER DOVEY, MERIONETHSHIRE

A view from the main road three miles south-west of Machynlleth

Photo. Reece Winstone

the eighteenth and nineteenth centuries witnessed a great deal of friction between the two parties. Even in the latter half of the nineteenth century there was the same wide gap between the English-speaking landlords and the Welsh-speaking tenants—a gulf which was widened when the vote was extended and the landlords found their tenants voting for a radical policy to which they were utterly opposed. Though most of the grievances have been removed, the relative poverty of the smallholder remains, and he is forced to be a general farmer, to produce as much as he can for his own needs, so that scientific cultivation of the soil is impossible, even if the financial position permitted.

The draught horse predominates, the motor tractor and agricultural machinery generally being almost unknown; though market towns have increased in number and size during recent years, the commerce done is relatively small. Until the Industrial Revolution, many of the farmhouses were farms and factories

combined. Flocks of sheep were tended by the men and the wool was treated and woven into fabrics by the women, thus giving a double source of income of which half has been lost since the centralization of industry.

The Pastoral Wealth of the Country. Sheep's wool remains the most important product of the country, and vast flocks pasture on the mountains of North and South Wales alike. They can be seen being driven down from the slopes of Plynlimon in their thousands or from the Berwyn Mountains to the sheep-dipping in August.

The many inns called "Drovers' Arms" are a symbol of the other great rural industry of Wales—the raising of stock which is sent for fattening to the richer pastures of the English valleys. Formerly the herds of cattle were driven along the roads from central Wales into England, taking months to complete the journey and finding pasturage as they went. To-day they are driven to the nearest market-

town—Brecon, or Llandovery or Carmarthen—there to fetch a price which, in fact, is as high as could be obtained over the border, though many of the farmers still dispute the fact.

Welsh black cattle are as well-known for the excellence of their beef as the cattle bred in the pastures of Aberdeenshire. The typical breed of pig which is a mixture of several breeds, some indigenous, some imported from England, gives a fine yield of bacon. The Welsh ponies, like those of the New Forest, have earned a reputation for their hardiness and patience; vast numbers of them have been utilized in the coal mines of South Wales.

For the rest, the lowland valleys, particularly the Vale of Glamorgan and the Vale of Clwyd, have proved admirable for dairy-farming;

milk, butter and cheese are produced on the farms, most of the produce of the Vale of Glamorgan being utilized by the industrial population of the Swansea and Cardiff districts; that of the Vale of Clwyd being diverted to the North Wales resorts, and to the markets of Chester and Liverpool, whilst milk from the eastern districts is transported daily to the Midland counties. Corn crops, too, are productive in the Vales of Clwyd and Glamorgan, where the acreage under oats and barley is greater than that under wheat, though the latter also is of economic importance.

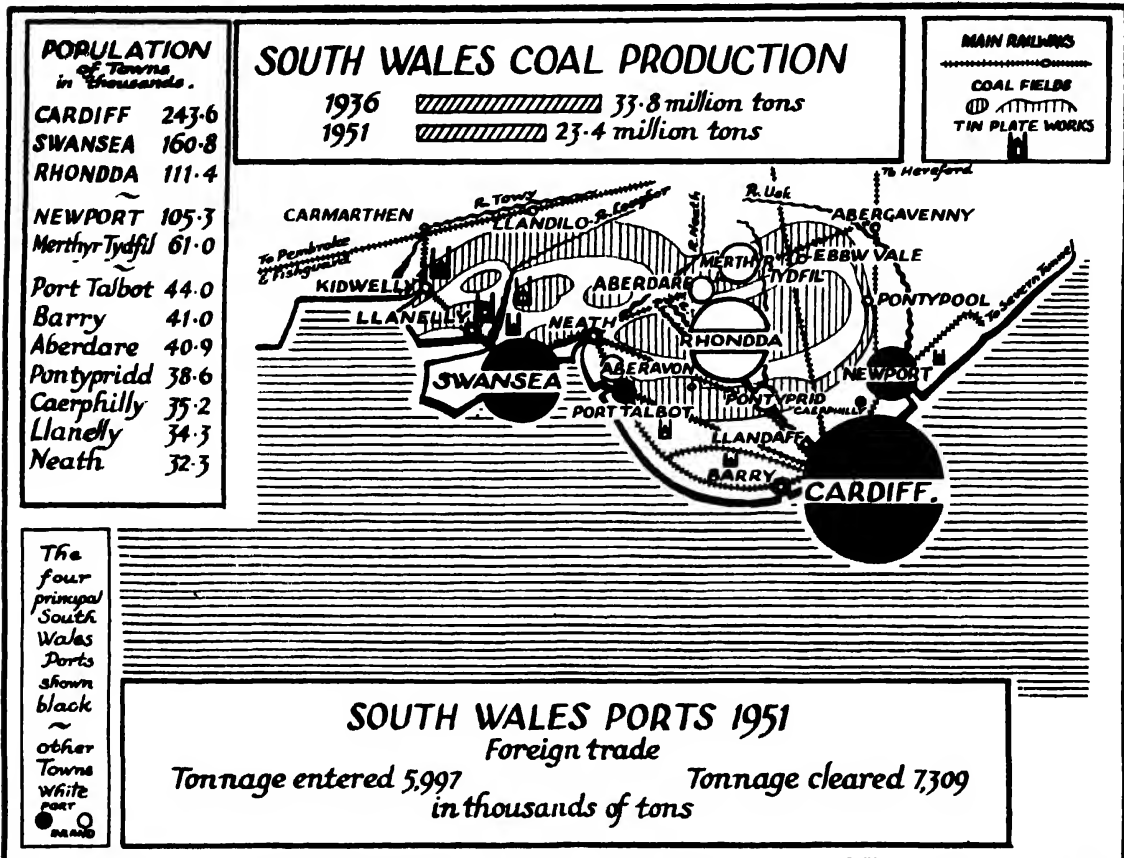
The County Towns. The county towns of Wales are in several cases the Norman fortress towns—the only places where the Normans gained a real footing in the country; a few of them are on sites already built upon by the



WORKING THE LAND

1. Timber hauling in North Wales. 2. Sheep shearing in the Valley of Clwyd. 3. Ploughing against the background of Radnorshire Mountains

Photos: H. E. Iles



Romans. Thus Carmarthen, Brecon and Cardiff are towns which originated as Roman stations, situated in naturally defensible positions along the line of the Roman roads. All three were re-fortified by the Normans towards the end of the Period. All three are in positions admirably suited to commercial and market centres; consequently they have continued to flourish and are still the county towns of their respective shires.

Radnor, also, owes its origin to the rule of the Marcher Lords, whilst Newport, county town of Monmouthshire, is derived naturally from the Norman fortress and walled town which existed near its site. Nevertheless, the Welsh aversion to cities (which they have always regarded as impositions and foreign to their natural inclination as sons of the soil) is well shown by the fact that at the beginning of the last century the population of Newport had dwindled to a mere 1000. Haverfordwest, too, chief centre of commerce in Pembrokeshire, has had a continuous, though chequered, activity since the later days of the Norman Conquest.

Edward I finally imposed some semblance of

the English county town system during his prolonged, and often abortive, efforts to re-organize Welsh economy on the English pattern. It was due to him that the shires of Caernarvon and Merioneth in the north, Glamorgan, Cardigan, Carmarthen and Pembroke in the south, were delineated. It was due to his influence also, that castles such as those at Aberystwyth, Caernarvon, and Flint were erected and a policy pursued of settling an urban population under the shadow of the castle. In all the cases named, the sites chosen have continued throughout the Middle Ages to the present day, to support a growing population of merchants and traders on whom the modern market system of Wales is based. In addition, Aberystwyth and Caernarvon have become social and literary centres, the former greatly assisted by the establishment there of the University College of Wales.

From the thirteenth century onwards there was a gradual change in the relation between the Crown and the imported English inhabitants of the county towns, on the one hand, and the Welsh farmers of the district on whom the prosperity of the former depended, on the

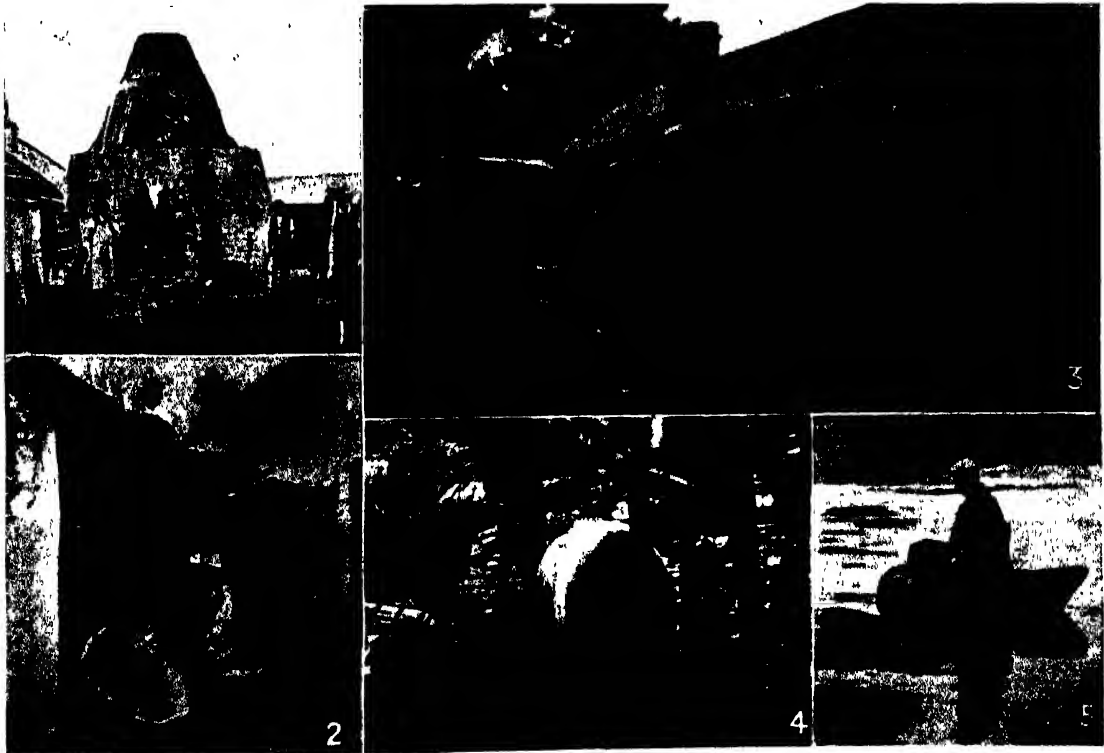
other. The sharp contrast between urban and rural population, however, remained, although this is much less marked in the case of some towns such as Welshpool, Dolgelly, or Pwllheli, which owe their origin to no external influence, but have developed rather in the normal course of Welsh agricultural needs.

The Industrial South. Although the bulk of the population in most counties is rural, in the extreme south, the area of the coal measures, the character of the country is very different. Several large towns arose with mushroom-like speed, Merthyr Tydfil, Brynmawr, Abertillery and Pontypool amongst them. These show some semblance of planned growth, but many of the urban areas show no such planning. In the Ebbw Vale, for instance, long strings of cottages extend for miles, dull, featureless and forbidding.

During the boom that followed the first World War, there was an air of prosperity about these places. But only too soon depression set in with its attendant poverty and unemployment. Many of the workers moved to more favoured districts. The partial recovery which was beginning to be felt before the last war was brought to a standstill on the outbreak of hostilities.

When in January, 1947, Britain's coal-mines were vested by the Government in the National Coal Board as State property, the attitude in South Wales was one of expectancy and hope that the industry would recover. It will be many years, however, before it can be estimated whether the great hand-over from private ownership to a public trust was fully justified.

In both 1947 and 1951 coal was actually imported from America to South Wales ports, an event which had only been paralleled during the great strike, but normally a considerable portion of the total production is sold abroad. Apart from the fact that the winter of 1947 was an exceptionally hard one, it must be borne in mind that the consumption of coal in the production of alternative forms of heating has risen enormously since the war. In 1938 only about 14,000,000 tons of coal were used to produce electricity whereas by 1951 this figure had risen to over 34,000,000 tons. This partly explains why householders in Cardiff had to queue for their meagre house supplies during the winter. South Wales is now taking care that all its eggs shall not be in one basket and many new factories have been started



INDUSTRIES OF THE COUNTRYSIDE

1. A pottery kiln at Ewenny, Glamorganshire.
2. The dye house at an ancient pandy in Carmarthenshire.
3. The waterwheel giving power to a spinner's factory in Carmarthenshire.
4. A cider-mill at Llanigon, Brecknockshire.
5. Netting salmon from a coracle on the Tivy

Photos: Carmarthenshire Rural Community Council; M. Wight



THE WELSH MARCHES

The bridge over the Monnow and the medieval Gate at Monmouth
Photo: British Railways

since the war whose products play a large part in the all-out export programme which has become a post-war necessity.

Cardiff. Cardiff is the commercial and industrial capital of Wales, and with a population at the 1951 census of 243,627 (as compared with 226,937 in 1931) it is the largest Welsh town. Its prosperity has been due principally to the growth of its docks, which are now most extensive and can handle the largest ocean-going liners. Its exports of coal are normally the largest of any port in the world, though in 1940 they disappeared almost overnight and have not yet fully recovered. Heavy industries are not confined to the iron and steel foundries and engineering works, but have constantly expanded, and, as might be expected, now include shipbuilding on a large scale and the manufacture of foodstuffs and clothing for the local market and, to a lesser extent, for export.

Cardiff is also the principal market centre of the Vale of Glamorgan. In this connection it has been assisted by the easy transport for all commodities which it can offer by rail, road and sea, for there are direct rail communications with London and the midland towns, and a complete network of transport by road has been instituted since 1919.

The city contains many buildings of note. Modern structures, such as the County Hall and the Welsh National War Memorial are representative of the present, whilst Cardiff Castle, a fortified position since Norman times, and the Cathedral of Llandaff, now within the borough, are representative of the city's historic past. The latter certainly dates from the twelfth century, although according to some accounts it is the most ancient cathedral See

in the whole of Great Britain, and had its foundation at the beginning of the sixth century from Irish influence before St. Augustine brought Christianity to England.

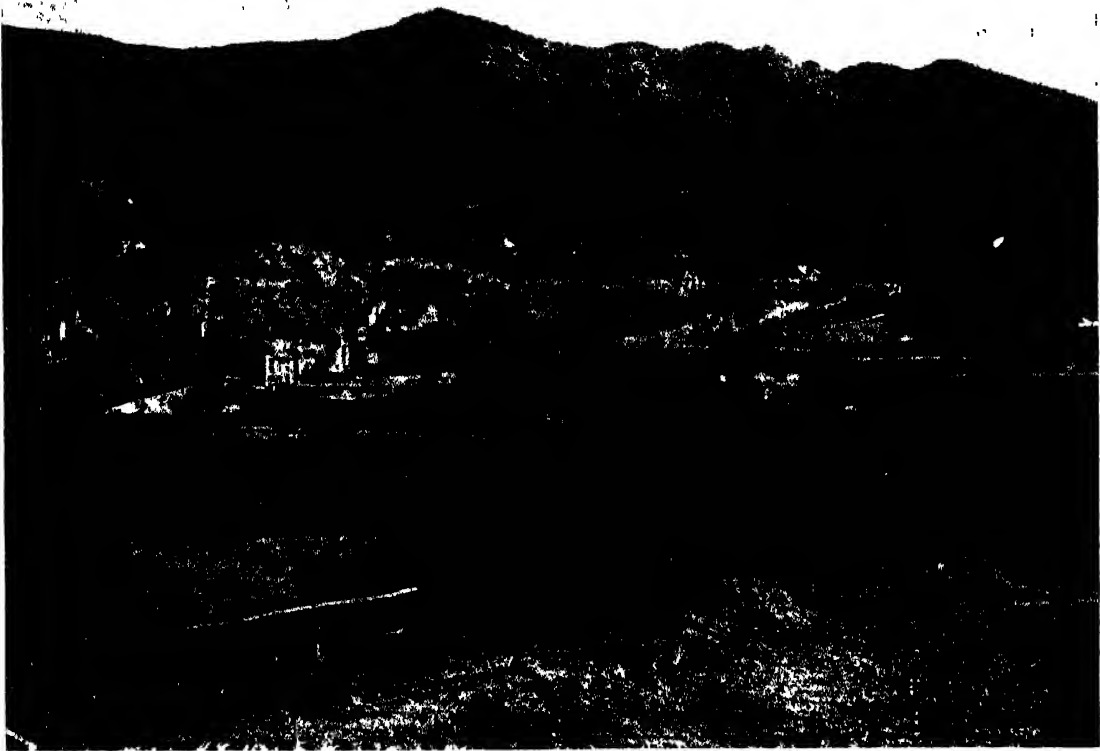
Newport and Swansea. Newport, population 105,285 in 1951, as compared with 98,447 in 1931, is the next biggest port for coal exports. As at Cardiff, shipbuilding yards have been established, and there are manufactures of iron and steel goods, chemicals and foodstuffs.

Swansea, population 160,832 in 1951 (a decrease from 164,797 in 1931), is the third coal export centre. Exports also include iron, steel, and building-stone. It is the principal centre of the tinplate industry. Smelting works are numerous, and, though its industrial development has not been so rapid or so varied as that of Cardiff, it contains a number of factories engaged in the production of foodstuffs and other commodities for local consumption. The greater part of the town is either itself industrial or houses an industrial population, but the western districts have in recent years become a holiday resort, in the course of which the beach has been developed and new suburbs have arisen. A few of the notable buildings include the University College and the Museum of the Royal Institution, whilst fragments of the fourteenth-century castle also remain, giving some impression of the antiquity of the town, which received its first Charter in the twelfth century.



EARLY RELIGIOUS LIFE

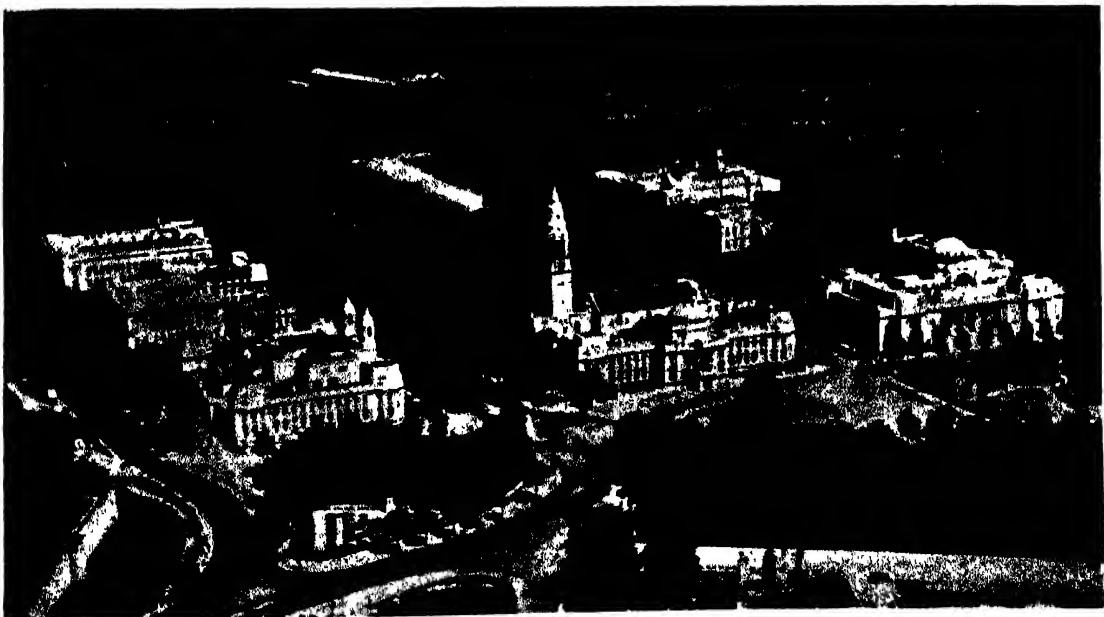
The ruins of Tintern Abbey by the banks of the Wye
Photo: British Railways



WESTERN WALES

The market town of Dolgelly with the peaks of Cader Idris in the background

Photo British Railways



THE CIVIC CENTRE OF WALES

An aerial view of Cardiff, showing the municipal buildings, the railway station and the residential quarter

SCOTLAND

THE total population of Scotland recorded by the 1951 census was 5,095,969 (an increase of 5.2 per cent since 1931), less than one eighth of the population of England, yet Scotland's area of 30,405 square miles (including over 600 square miles of inland water) represents nearly 60 per cent of the area of England. The relation between these figures reveals the different character of the two countries with their own native traditions and manner of life.

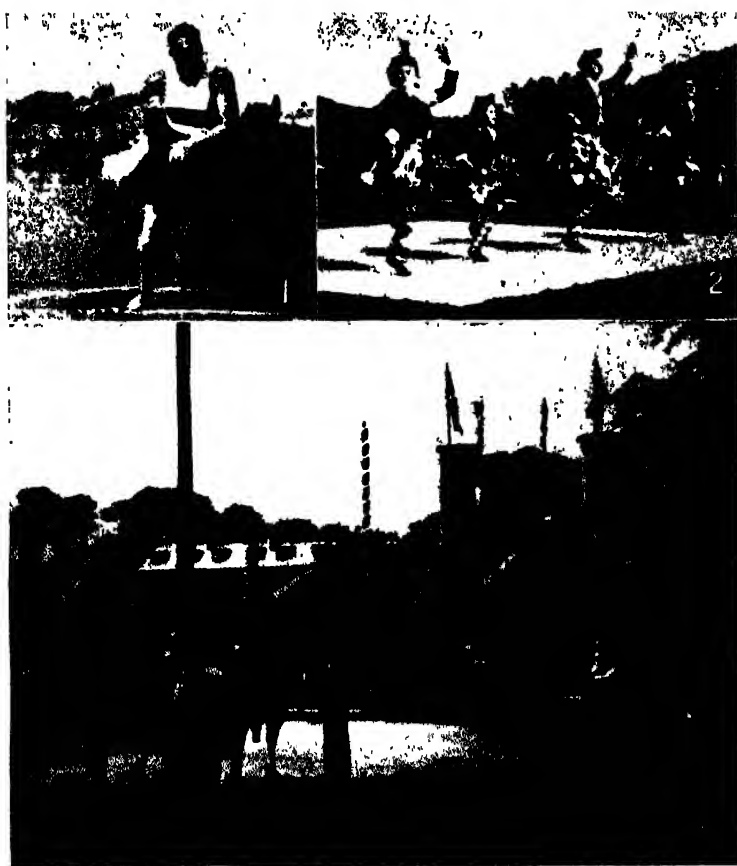
A densely populated area has developed in the lowland belt between the Firth of Forth and the Firth of Clyde and an intense industrial

complex round Glasgow; but this is the only area which can justly claim to be industrial. Although many local industries occur, they are bound up with the agriculture which is the mainstay of Scotland's life. Thus the wool industry of the Southern Uplands is intimately connected with the sheep walks of that part of the country; the distilleries of the eastern Highlands with the barley which is intensively cultivated in the drier valleys of the eastern counties.

In physical formation the country falls into three parallel strips: the Southern Uplands, extending from the English border to the beginning of the central Lowlands, which form the second characteristic belt of country: the Highlands (to the north of the Valleys of the Clyde and Forth), form the third part, covering nearly three-quarters of the total area of Scotland; but this latter division lacks the unity of the other two and shows a greater variety of contour and climate, of soil and productivity. The eastern coastal strip from the Moray Firth to the Firth of Forth is in fact not mountainous, and differs in every particular from the rocky western Highlands and the barren mountains of the far north.

The Southern Uplands.

The Southern Uplands are in formation, though not strictly in geology, a continuation of the Pennine Chain and show many of the features common to the hills of northern England. There is no natural boundary between England and Scotland except where the Tweed divides the two countries, the northern slopes of the Cheviots



SCOTLAND OF TRADITION

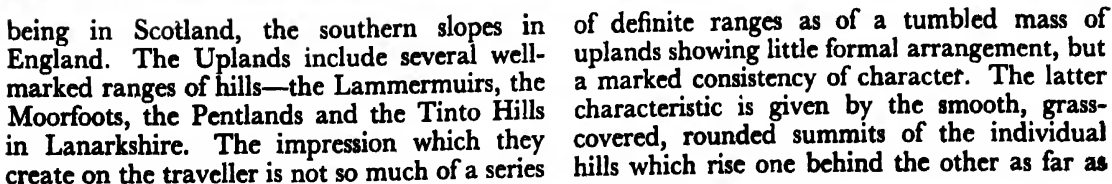
1. Throwing the Hammer at a Highland meeting.
2. Dancing the Highland Fling.
3. Ancient Charter celebrations at Dumfries

Photos: Scottish Travel Association; W. Rose



BRITISH BIRDS

- 1 Barn Swallow (*Hirundo rustica*) 2 Yellow Hammer (*Lammerza citrinella*) 3 Shetland Starling (*Sturnus vulgaris zethlandicus*)
- 4 Golden Aureole (*Oriolus galbula*) 5 British Blue Titmouse (*Parus caeruleus*) 6 Common Bullfinch (*Pyrrhul. europae*)
- 7 Stonechat (*Pratincola rubicola*) 8 Common Kingfisher (*Alcedo ispida*) 9 Pied Wagtail (*Motacilla lugubris*)



the eye can reach, and command from their summits the long views down winding fertile valleys which have made the scenery of southern Scotland almost as famous as that of the western Highlands.

The river valleys are as characteristic of the country as the hills through which they flow. The most important is that of the Tweed which virtually divides the hills into two parts and is



VALLEY OF THE TWEED

A view from Caddonfoot showing the pastoral country immortalized by Scott, with the bare hills of the Southern Uplands in the background

fed by many tributaries, such as the Gala Water, the Yarrow and the Teviot which flow north and south to join the main stream of the river as it winds its leisurely course to the sea at Berwick. Parts of Lanarkshire and the western uplands drain into the Valley of the Clyde, whilst the River Nith in Dumfries flows into the Solway Firth.

The three river systems, like the hill ranges, show a marked uniformity. Near the sea they have a broad valley from which the hills rise gradually, but as they approach the central mass of the uplands their valleys narrow; the fall of the rivers becomes greater and the streams are consequently swifter. In the upper reaches of the Clyde and Tweed the valleys are narrow rifts between hills, rising 2000 feet

above sea-level, the courses of the streams being marked by an abundance of waterfalls and rocky torrents.

The Wealth of the Land. The wealth of the land follows inevitably from its physical formation. Near the estuaries of the rivers, particularly of the Tweed, alluvial deposits have given a rich soil. This, allied with a relatively low rainfall, makes the country well suited for cattle grazing and for the plough. Elsewhere there is no land naturally productive of grain or other crops; yet the high grass-covered slopes of the hills are the natural home of wool-bearing sheep and contain some of the most productive sheep walks, not only in the British Isles but in the whole world.

In the latter part of the eighteenth century a great effort was made to plough many parts of the Southern Uplands which were naturally unsuited for this form of cultivation. In the Tweed Valley land has been ploughed up to a height of 1000 feet above sea-level and wheat grown at more than half that height. The result was poverty and the destruction of some of the richest grazing country. Since the middle of the last century the area under plough has decreased, wheat has virtually disappeared and oats and barley have become the principal crops allied with vegetables, such as turnips and potatoes, which grow well in many areas.

Woollen Industry and Sheep Grazing.

How vastly sheep-grazing preponderates over other rural occupations is well illustrated by the fact that in Peebles and Selkirk more than 75 per cent of the total area consists in pasture-land for sheep. Forty years ago these two counties accounted for nearly 500,000 sheep; though the number has decreased, vast flocks of Cheviot or black-faced sheep are still a familiar sight on the hillsides.

The abundance of the raw material at hand allied with a pure water supply and a stream strong enough to give power to drive the machinery led to the introduction of the woollen industry of the upland towns. Selkirk, Peebles and Galashiels are the most characteristic examples in Great Britain of towns which were manufacturing centres before the Industrial Revolution and have maintained their position since the introduction of coal power, yet remain country towns rather than industrial centres.

The industry dates from the end of the sixteenth century and it was not until 1835 that the home supply of wool proved inadequate for the mills. Then for the first time a tentative

proposal was made to import merino from the Continent; now more than three-quarters of the raw material is derived from foreign countries, chiefly from the Dominions. Even so, the greater part of the local product is utilized and the increased output has made the names of Cheviot cloths and tweeds (a corruption of Tweel, not a derivative from the name of the river) famous throughout the world.

Recent Social Changes.

One of the most significant social changes in Scotland is the direct outcome of the reversion of the land from arable to pasture. Formerly there was common grazing ground of unlimited extent and the sheep-farmers were smallholders in the true sense of the word. When the era of enclosures began their fate seemed sealed, but a fresh impetus was given to smallholdings by the possibility of ploughing the land to a higher altitude, so that the typical farmer was able to eke out his income from wool by the produce of his ploughed fields. When cultivation ceased to be profitable it was no longer possible for the smallholder to exist, and to-day the greater part of the grazing land is made up of large estates on which the shepherds are employees of the great landowners, and the indigenous yeoman population has virtually disappeared, some migrating to the industrial Lowlands, others taking their skill and knowledge to the Dominions. This process of rural depopulation is not confined to the Southern Uplands, but is still more marked in the Highlands, under which heading more will be said of the life of the rural people.

The Lowland Belt. The Lowland belt extends from the Pentland Hills and the uplands of Ayrshire to the line of the Highlands from Perth to Stirling and includes the Ochil Hills. The area supports more than half of the total population of the country and is wealthy



SCENIC CONTRASTS

Above: Sheep walks in the Cheviots, Roxburghshire. *Below:* The fertile Vale of Strathmore between Perth and Blairgowrie

alike in its mineral resources and the fertility of its soil. The capital city of Edinburgh, the industrial complex of Glasgow and the important commercial and industrial towns of Dundee and Perth all fall within the belt.

The story of the development of the Lanarkshire and Lothian coal-fields and the consequent industrialization of the Clyde Valley is told in the chapter on "Industrial Britain." The



SCENES FROM THE WEST COAST

1. Largs, a favourite holiday resort. 2. Precipitous cliffs overhanging the lochs at Lochgoilhead, Argyllshire

Photos: Scottish Travel Association

importance of farming is little less than that of mechanization.

In the upper reaches of the Clyde, particularly in the northern districts of Ayrshire, dairy-farming has obtained a dominance and prosperity which would have been impossible but for the ready market supplied by the towns of lower Clyde-side. The rich pastures and the heavy rainfall are ideal for the perfection of dairy-farming. Farther east, where the climate is drier, arable and pasture alternate, and mixed farming is the rule. Large estates are not so numerous as in the Highlands or Southern Uplands and the yeoman farmer is still the most important unit of the population, producing in most areas good crops of oats and barley interspersed with occasional fields of wheat in addition to pasturing fine herds of cattle, both for dairy and beef purposes.

The Eastern Coastal Plain. The eastern coastal plain of Scotland continues the fertility of the Lowlands. It includes about half of the counties of Angus, Kincardine and Aberdeen and the greater part of the counties of Banff, Moray and Nairn, stretching from the Moray Firth to the Firth of Tay. Aberdeen is the principal centre of distribution, but there are a number of other towns, such as Montrose, Stonehaven, Peterhead, Fraserburgh, Banff and Elgin, which are thriving centres of agriculture and fisheries.

Two factors have combined to render this the richest part of the country with the exception of the Lowlands—the natural wealth of the soil and the equable climate. The latter is remarkably consistent and more favourable to the growth of cereals than the greater part of England. Even so, agriculture has not always

been carried on. Until the end of the eighteenth century large tracts were barren and boggy and only the driest areas had been cultivated. Here, therefore, the era of enclosures had a most beneficial effect, the stones which were removed from the land being used to build dykes and drains which reclaimed many thousands of acres.

The Vale of Strathmore. The Vale of Strathmore is one of the most intensively cultivated districts in the British Isles. Its principal product is barley, which is used in the local distilleries, but there are many thousands of acres under vegetables as well as extensive fields of oats and rich pastures for cattle. As a result of the lower summer temperatures, due to difference in latitude, the harvest is often delayed until a full month after the average date for the harvest of southern England.

The breeds of cattle which have been



RANNOCH MUIR

The Kingshouse Inn, built as a garrison base for the English soldiers who guarded the military road across the Muir. The head of Glencoe is seen on the right of the picture

Photo: A. N. Wells

evolved on the pastures of Aberdeen and Angus are famous for their beef, the greater part of the Scottish beef marketed throughout Great Britain being derived from this part of Scotland. Where the land has proved unsuitable for cultivation, vast areas of woodland have been planted, mainly trees of the pine family. Royal Dee-side is an outstanding example of this treatment. The pine forests around Balmoral and Ballater extend from the river valley almost to the crest of the hills. Similarly, the forests of Angus and Nairn have completely altered the face of the country. Here logs used to be floated down the River Spey and transported by sea, but improved communication by rail has made this unnecessary, although log rafts are still formed to transport the timber from the forests to the nearest rail head.

Fishing Villages. The coast is bounded by a line of cliffs only broken by the mouths of the rivers which flow eastward into the sea, and sandhills have been formed on the eastward side of the cliffs in many districts. Natural harbours occur at frequent intervals where the softer rock has given way before the denuding action of the sea. Around every one of these harbours, from Montrose to Inverness, a fishing village has come into existence. Often these are of great beauty, nestling under the steep face of the cliffs and approached by a single precipitous road. The fishermen show an unusual degree of conservatism and rarely travel far from their villages. In some places their high cheekbones and bright colouring show their descent from the Norsemen who first settled along this coast.

The Modern Fishing Industry. Aberdeen, Fraserburgh and Peterhead are the chief centres of the herring fisheries, but along the shores of the Moray Firth there is a string of small towns which depend entirely for their livelihood on the sea. Places such as Banff and



HIGHLAND SCENES

1. Looking north over Glencoe towards Ben Nevis. 2. Black-faced sheep in Glen Lyon, Perthshire. 3. Loch Eive, the "Land of Lorne," Argyllshire.

Photos W. Rott, Scottish Travel Association



A FISHING TOWN OF THE EAST COAST
Stonehaven, port and fishing town of Kincardineshire

Portsoy are sharply distinguished from the more southerly fishing villages in that here the capital has passed from the hands of individual fishermen to larger companies. Formerly it was usual for a trawler to be owned by two families, sometimes by three. Now, there are many companies which operate twenty or more trawlers. The steam drifter also appeared and whether by coincidence or, as the people along the Moray Firth aver, as a direct consequence, the rich hauls of fish, which until twenty years



THE FORTH BRIDGE
Photo Keystone

before were frequent, were no longer made. Thus we see the same process on the coast as on the land: the smallholder giving place to the capitalist; the fisherman becoming the employee of a corporation; the farmer becoming the tenant of the great landowner.

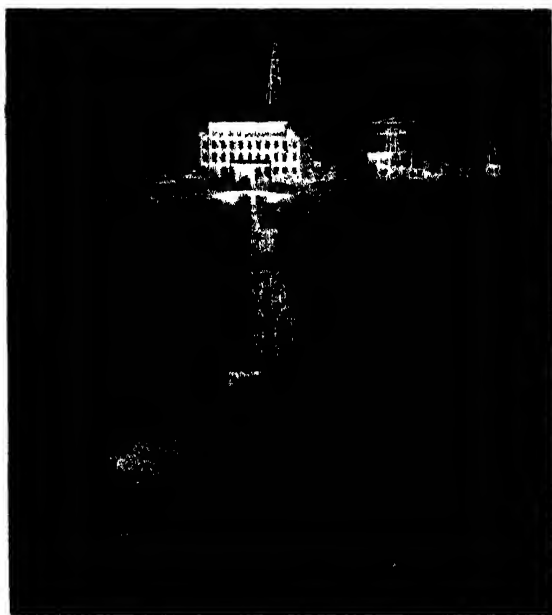
The Western and Northern Highlands. The scenery of the Scottish Highlands has appealed strongly to many writers. Through most of the counties of Perth, Argyll and Inverness the landscape varies only in degree. Once Scotland extended far to the north-west, but the effect of millions of years of erosion has been to break down the uniformity of the plateau and divide it into masses of uplands and deeply-cleft valleys, many of which are filled with inland lakes.

Loch Ness divides the southern Highlands from the northern mountains. Sutherland, Ross and Cromarty and a part of Caithness are just as mountainous as the country farther south, but whereas in Inverness and Perth some of the valleys are cultivated and pine woods fringe the shores of the lakes, here there is nothing but barren moorland covered with a thin and scanty growth of heather which will not give sustenance to man or beast. Only a few poor fishing villages exist along most of the coast, though

Caithness has Wick and a number of other prosperous villages concerned solely with fishing.

The western coast is rocky and deeply indented, cliffs many hundreds of feet high rising sheer from the Atlantic Ocean and lochs of unknown depth stretching into the mainland. The islands of Skye and Mull and the Hebrides, among which Lewis is the largest, are geologically and scenically part of the mainland of Scotland from which they have only been divided by the process of denudation.

Communications. Communication is difficult owing to the lie of the land, but there are certain long glens which determine the principal lines of commerce. One crosses the Pass of Killiecrankie from Perth, then runs northward with the Valley of the Spey and crosses the hills to Inverness. Another is determined by the line of the Caledonian Canal and Glen More; another follows the Pass of Glencoe and gives communication between the west and the central districts. Railways and roads are never far from each other, though additional roads have been driven up most of the glens, even when these end, as many do, in a *cul-de-sac*. In the far north there is communication along the east coast from Aberdeen to Wick and Thurso, but the greater part of Sutherland is without road and rail. An extensive system of air routes, however, is doing much to reduce the difficulties of communication.



DEVELOPMENT OF WATER POWER
The power station and pipe line from Portal, part of the Glenlee Pipe Line system
Photo: British Electrical Development Association



WINTER IN THE WESTERN HIGHLANDS

The banks of Loch Lomond and the snow-capped summit of Ben Lomond

Photo: Scottish Travel Association

The highest mountains are in the neighbourhood of Ben Nevis and the Cairngorms which rise above the Valley of the Spey. Several peaks in both groups exceed 4000 feet, whilst in the far north there are at least a dozen points which exceed 3000 feet. As if the lie of the land were not sufficient deterrent to producing wealth from the country, the natural drainage of the mountains is quite inadequate to the high annual rainfall, which exceeds 100 inches over a wide area in the west and is seldom less than sixty inches except in the valleys. The result is that any deposits of soil which form on the mountains are washed away and peat bogs are, for hundreds of square miles, the only vegetation apart from the inevitable heather.

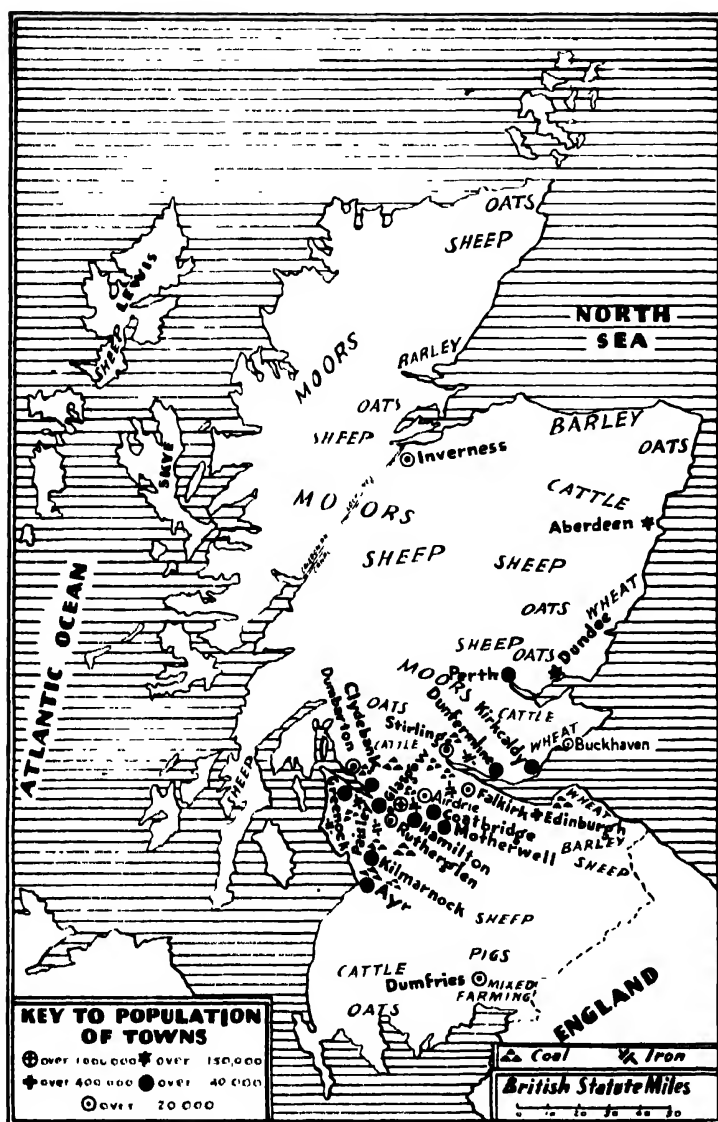
Hydro-electricity in the Highlands. In 1946 a new scheme was adopted for the development of water power in Glen Carrich and Glen Affric in Inverness-shire, and by the end of 1951 the total hydro-electric production in the country had reached a rate of nearly 900,000,000 units annually. Such a scheme, which is comparable with developments in Scandinavia, Switzerland and Italy, not only gives cheap power to new industrial and agricultural enterprises but provides ninety per cent of the population with electricity.

Decline of the Crofters. The villages are mostly in the valleys, though the more scattered

crofters' villages occur also on higher ground. The latter, most characteristic of Scottish settlements, are less numerous than previously. The battle of Culloden and the consequent decline in the clan system is usually blamed for the disappearance of the independent farmer of the Highlands, but it is probable that the increased cost of materials, allied with the inherent sterility of the soil, would ultimately have had the same effect.

In the days of the clan system the chief of the clan allotted a given area to a group of farmers or crofters as they were more generally known, the grazing land being held in common and the arable land being divided between the individual crofters. After Culloden the clans declined and the new landowners found the crofting system contrary to the belief then current that the greatest wealth could be derived from the land if it were devoted exclusively to sheep rearing. As a result, whole villages of crofters were swept away and the land which they had ploughed converted into sheep walks. But sheep did not prove as profitable as was expected and the flocks which range over the mountains scarcely number a quarter of what they did fifty years ago.

Highland cattle, by contrast, have flourished unexpectedly and produce a high quality of beef. A few crofters' holdings still exist, but the single-storied, white-washed and thatched



crofters' cabins in the western Highlands and in Skye are a picturesque survival of an era of independent agricultural activity which can never be restored.

The typical valley village consists of a single street of low houses, mostly white-washed, many of them thatched, but the appearance of the village is changing as a direct consequence of the growth of tourist traffic which has transformed the life of thousands of villages and provided a new impetus for building. Some erstwhile villages, such as Aviemore, under the shadow of the Cairngorms, have been completely transformed by the erection of large hotels and boarding-houses.

Life in the Highlands. It is encouraging

to note that the general standard of living has noticeably improved. At the 1951 census the population of Scotland (which since Culloden has been affected continuously by emigration) was the highest ever recorded. Plans for new factories and the development of hydro-electric power, since 1945, have given employment to more people and stopped much of the emigration. It would seem that in the fishing villages and on the estates of the great landowners there is employment enough for those who remain. Yet even the days of the great landowners appear to be numbered. In the early part of the last century there was perhaps a wider gulf between peasant and landowner than in any other part of the Commonwealth. There is still a marked gap between life in the palatial residences of Deeside and the standard of life possible for the mountain shepherd. But some of the old estates are being broken up; the magnificent residences are becoming hotels and the exigencies of death duties and taxation alike are taking their toll.

Highland lore and tradition are still vigorous; the Highland Games are an integral part of the social life of the country. Gaelic is a living language and

is the only language spoken by some of the people of the western and northern Highlands. Though it has not the literature nor the advantage of traditional bards like the Welsh language, it must be many decades before the combined influences of education and wireless can cause the native language to die. An additional influence in preserving it, and in preserving the integrity of Scottish life, will always be present in the physical contours of the land, which in places make a forty mile journey necessary to pass from one place to another only five miles distant. A further unifying factor in Scotland since 1929 is the United Church, founded by the union of the United Free Church and the Church of



INDUSTRIAL SCOTLAND

Milford Sellar

Photo: Scottish Travel Association



A MOUNTAIN FARMSTEAD

A farm at Torran near the south end of Loch Awe, where pine woods reach near the summit of the hills and there is pasturage for sheep on the mountain fells

Photo: W. Ross

Scotland. This forms an effective link between Highland and Lowland, and between Lowland and Southern Upland, where previously there was discord due to no racial distinction but to differences in tradition and religion.

The Towns of Scotland. With the exception of Edinburgh and Aberdeen, the towns which have a population of 50,000 or over have attained their importance in the course of

the industrial centre of Scotland, a position which it owes not only to the proximity of the coal measures but to the excellence of its communications. It is not only an important railway junction but, being situated on the Firth of Clyde, is in direct communication by coastal steamer with most of the important ports of western England and Scotland. It is, in fact, this proximity to the sea which has



THE INDUSTRIAL CAPITAL OF SCOTLAND

A view of George Square, Glasgow

Photo Scottish Travel Association

the last 120 years as a direct result of the Industrial Revolution, the working of the southern Scotland coal seams, and the consequent centralization of industry. They are seven in number, Glasgow, Edinburgh, Dundee, Aberdeen, Paisley, Greenock and Motherwell. It will be noted that all except Aberdeen are in the Lowland belt of the basins of the Forth and Clyde.

Glasgow, Industrial Capital. Glasgow is the largest city of Scotland with a population of 1,089,555. It is a royal and parliamentary borough and cathedral city, and *par excellence*

made possible Glasgow's most characteristic industry, that of shipbuilding. As early as 1812 a steamship, the *Comet*, was launched from a Glasgow yard, and ever since then Clyde-side has been prominent in the building of great ships—the *Queen Mary* (73,000 tons) and the *Queen Elizabeth* (83,673 tons) being among her proudest achievements in the present century.

Glasgow's other most important industries are intimately connected with shipbuilding. The iron and steel used in the construction of the vessels are produced locally; in fact the iron and steel products have attained a fame

outside shipbuilding, particularly in structural engineering and in the making of bridges, the Forth Bridge and Tower Bridge both being constructed by Glasgow firms. For the rest, there is a mixed industrial activity concerned with the production of almost every kind of commodity from foodstuffs to paint, from textiles to leather goods, and from tobacco to chemicals.

It has been said that Glasgow's importance

lapsed in the period between the American Revolution and the beginning of the modern industrial era.

Dundee. In population (177,333) Dundee is the fourth city of Scotland and in the value of its industrial output second only to Glasgow. It is situated on the Firth of Tay and extends along the waterside to its suburb Broughty Ferry. It thus bears the same relation to the



THE CAPITAL OF THE NORTH

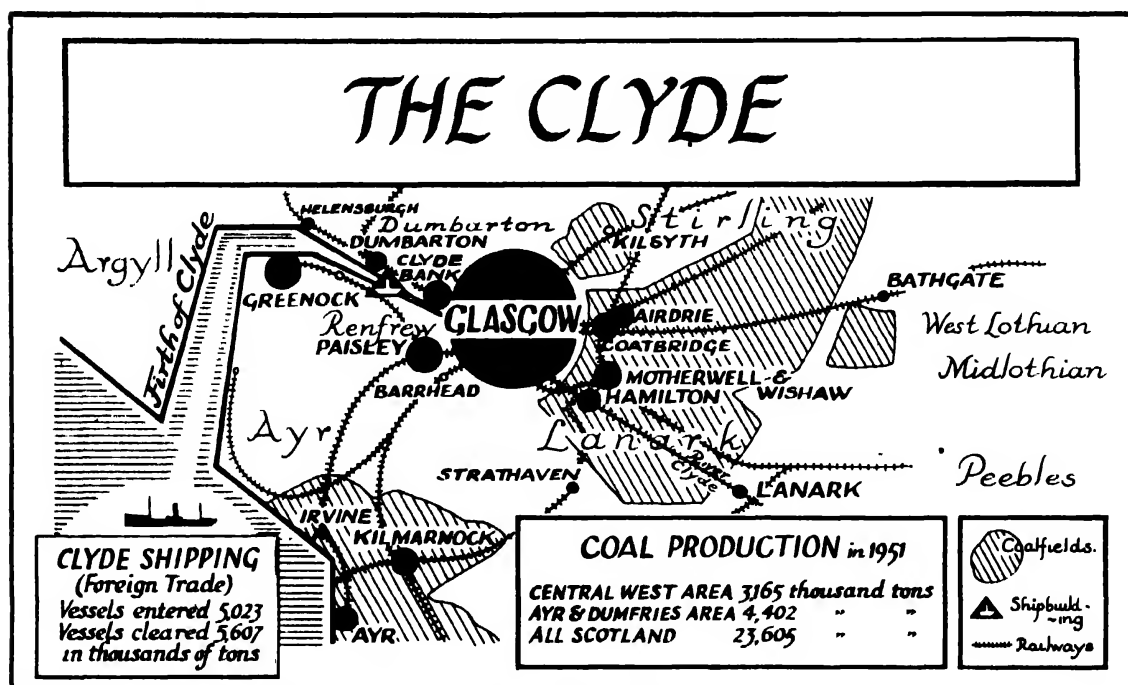
General view of Aberdeen looking down Union Street from the east end

is consequent on the centralization of industry. The statement must be modified by the fact that the city is of ancient foundation, but prior to the beginning of the nineteenth century its population was relatively insignificant. There are traditions of a Christian church in the sixth century, whilst it was one of the chief centres of government during the Scottish Kingdom. The cathedral is a link with those troubled times, for it was begun in the twelfth century and retains many fragments of the old building including much fifteenth century work. The University of Glasgow was founded in the reign of James II as a college attached to the Cathedral. Only the gatehouse of the early buildings survives.

It is relevant to note also that as early as the beginning of the eighteenth century, Glasgow was noted for its tobacco trade, though this

east coast of England and Scotland as does Glasgow to the west, and in addition is situated on the main east coast railway line with easy communication both to Aberdeen and the northern towns and with Edinburgh and the rest of England.

As in the case of Glasgow, this favourable position in relation to transport has made it an important market and distributing centre. The port has been one of the busiest in Scotland since the fifteenth century, and to-day has services and regular sailings connecting it with the Continent and with America. It is not surprising, therefore, to find that shipbuilding is one of its most important industries, though perhaps the best known activity connected with the city is the manufacture of jute, of which it is the largest producing centre in the world. The jute industry has brought in its



train several connected industries such as the manufacture of machinery and of linoleum.

Like Glasgow, Dundee has developed a wide variety of other industries which include the production of almost every kind of foodstuff, Dundee marmalade having a world wide reputation and the tobacco factories employing many thousands of workers. As a centre of learning and culture, Dundee has made rapid strides in the past sixty years. Its University College, which was opened in 1883, is attached to the University of St. Andrews.

Aberdeen. Fishing remains the most characteristic industry of the third city of Scotland, Aberdeen (population 182,714). Here the fish market ranks third in the value of its sales in the British Isles. Unlike Glasgow and Dundee, Aberdeen has never become a large centre of industry, which is confined, with slight exceptions, to the production of textiles and paper and the working of granite in the neighbouring hills. It is rather as an educational, religious and social centre that Aberdeen has attained its fame, though its prosperity is founded as much on its commercial activity as the chief clearing house of the whole of the north-east of Scotland, for which it is the principal financial centre. In recent years catering for tourists has achieved prominence.

In former times Aberdeen was larger even than Glasgow. Its activities in connection with fishing date from the earliest times, but

the modern town began to grow after the creation of the Bishopric of Aberdeen in the twelfth century. The granite industry with which the city is associated has contributed to its modern appearance, for the majority of the more important buildings are constructed of this material. The effect is particularly attractive in Union Street, the main shopping thoroughfare, and in the University buildings.

The coastal sailings which are made from the port are a reminder of the formerly vital export trade which was carried on with the Continent, and particularly with France and Holland, in the later Middle Ages, when Aberdeen was the centre of the Scottish textile industry.

Greenock. The town is situated on the Firth of Clyde in Renfrewshire. In the seventeenth century it was an insignificant fishing village, but attained importance by the manufacture of many famous sailing vessels. The shipbuilding industry has declined since the era of the steamship, but is still maintained and is associated with modern engineering works and with ship-repairing yards. Even so, the most important industry to-day is sugar refining, for which it is the largest centre in Scotland, and one of the most important in the world. Population 76,299.

Paisley. Situated seven miles south-west of Glasgow, the town has won world-wide fame as the centre of the manufacture of Paisley

shawls. This began as a rural industry carried on in the homes of the work people in Paisley and the surrounding country, and declined after the introduction of machinery, when its place was taken by the cotton thread industry, which is now the most important of the town. Many other industries, however, are represented, and include engineering and tobacco manufacture. The site of Paisley is of ancient foundation, a prosperous town being recorded in the twelfth century. The town was created a free borough by King James IV and became one of the greatest trading centres in Scotland, rivalling the importance of its neighbour Glasgow. Population 93,704.

Motherwell. By contrast modern in origin, Motherwell, like Paisley and Greenock, depends on its iron and steel industry and engineering works which specialize in the production of machinery for use in the collieries. Population 68,137.

Other Towns. The following boroughs have a population of over 40,000: Kirkcaldy (49,037), Coatbridge (47,538), Dunfermline (44,710), Clydebank (44,625), Ayr (43,011),

Kilmarnock (42,120), Perth (40,466), and Hamilton (40,173).

Of these, Ayr is an ancient town, the modern capital of Ayrshire and the market and distributing centre for the whole of the county. It is also the chief shipping port for coal in the west of Scotland, and in literature is well known as the centre of the Burns country.

Perth, the county town of Perthshire, is another ancient town which was raised to the status of a borough in the thirteenth century and to day, in addition to profiting from a good harbour, has become the centre of the dyeing industry. Nearby is Scone Palace, the site of the capital of the Pictish Kingdom.

Among these Stirling (66,960) is a flourishing town in the Lowlands, only a few miles south of the Highlands. Here the castle rock has been defended from the earliest times, and is still the site of a military garrison.

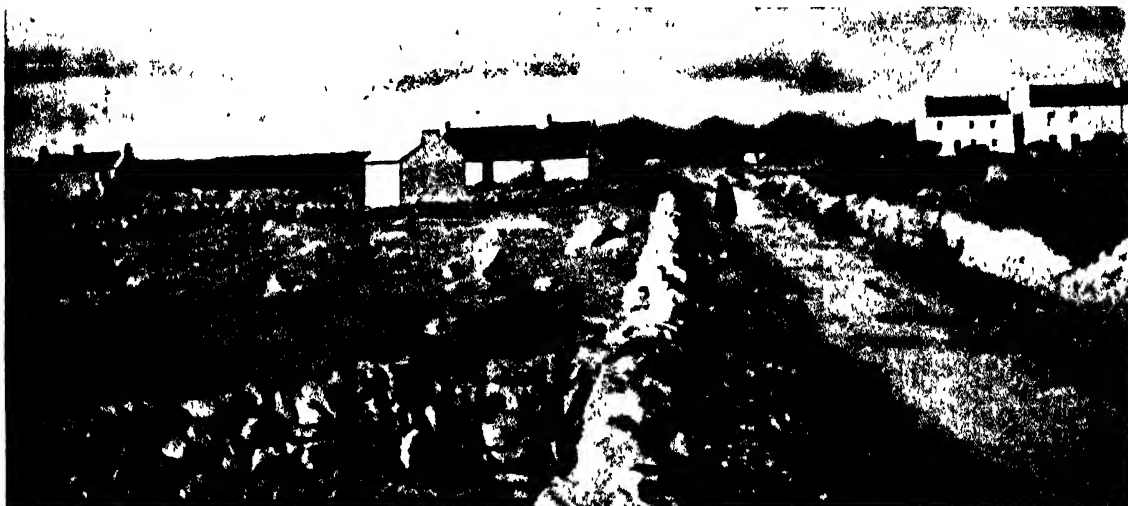
Inverness (28,113) is the largest town in the north of Scotland, situated on the Caledonian Canal where it joins the Moray Firth. It is the chief market and tourist centre for the northern Highlands.



ON THE CALEDONIAN CANAL
The town of Inverness photographed from the Castle
Photo: Scottish Travel Association

IRELAND

(NORTHERN IRELAND AND THE REPUBLIC OF IRELAND)



A COUNTRY ROAD IN CENTRAL IRELAND

Photo Ruth Mitchell

IRELAND is an island country with 4,330,000 people. It is 32,358 square miles in extent, approximately 700 of these being under lakes and tideways. For local administrative purposes the country is divided into thirty-two counties. For purposes of central government, six of those counties, i.e. the four counties of the north-east (Londonderry, Antrim, Down, and Armagh) and two counties of the north centre (Tyrone and Fermanagh) are still ruled as part of the United Kingdom,¹ and they send twelve representatives to the British Parliament at Westminster; but those six counties (called together "Northern Ireland") have also a local Parliament which meets at Stormont, near Belfast. This Parliament has power to legislate for the six counties on certain local matters and on Education; but its jurisdiction does not extend to such matters as Defence (Army, Navy, Air Force), Income Tax and Sur-tax, Customs, Excise, Postal Services,

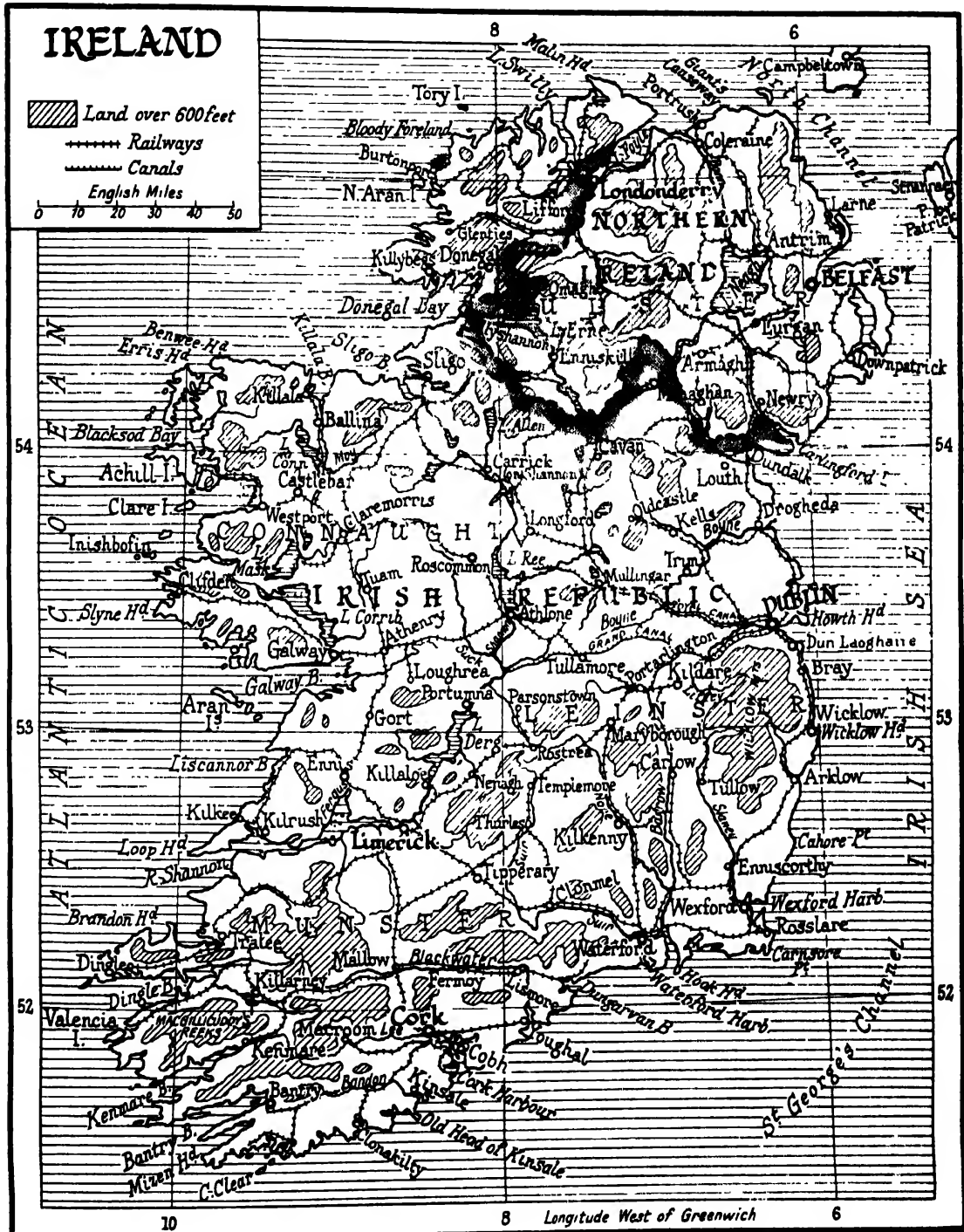
Judiciary. These matters remain under the control of the British Parliament.

The other twenty-six counties of Ireland form a separate state, the Republic of Ireland. Their Parliament meets in Dublin and has jurisdiction over all matters affecting the twenty-six counties.² Thus the area forms a separate self-governed state. It is associated with the United Kingdom for purposes of common interest though, as a result of the passing of the Republic of Ireland Act, 1948, it is no longer a member of the British Commonwealth, whereas the six-county area forms a province of the United Kingdom.

Prior to the 1948 Act the twenty-six county area was generally (and even officially, as in the 1937 Constitution) referred to as "Eire" (pronounced *air-ya*, with the stress on the first

¹ All Ireland had been ruled as part of the United Kingdom from the date of the Act of Union (1801) till the Anglo-Irish Treaty, 1922. Before the Act of Union, Ireland had its own Parliament, a single Parliament which met in Dublin.

² According to Article 2 of the Constitution enacted by the Parliament of the Twenty-six Counties in December, 1937, "The National territory consists of the whole island of Ireland, its islands, and the territorial seas." But Article 3 of the same Constitution enacts that "pending the re-integration of the national territory," the laws enacted by the Parliament of Eire shall apply to the same territory as did the laws of Saorstát Eireann (that is, to the Twenty-six Counties). ♣



syllable), which is simply the Irish equivalent of the English word "Ireland." The six-county area is called by its official name "Northern Ireland," though Donegal, one of the "twenty-six" counties, extends farther north than any part of the "six counties." Sometimes Northern

Ireland is referred to as "Ulster." But this is incorrect, as Ulster proper contains nine counties, three of them (Donegal, Cavan, and Monaghan) being in the twenty-six-county area. Still, it is no more incorrect than was the calling of the twenty-six-county area



WATERFORD'S ROMANTIC COAST

A view of the narrow alluvial plain which forms the coast of County Waterford with one of the characteristic round towers built for defensive purposes in the seventh or eighth century in the foreground
Photo: Irish Tourist Association

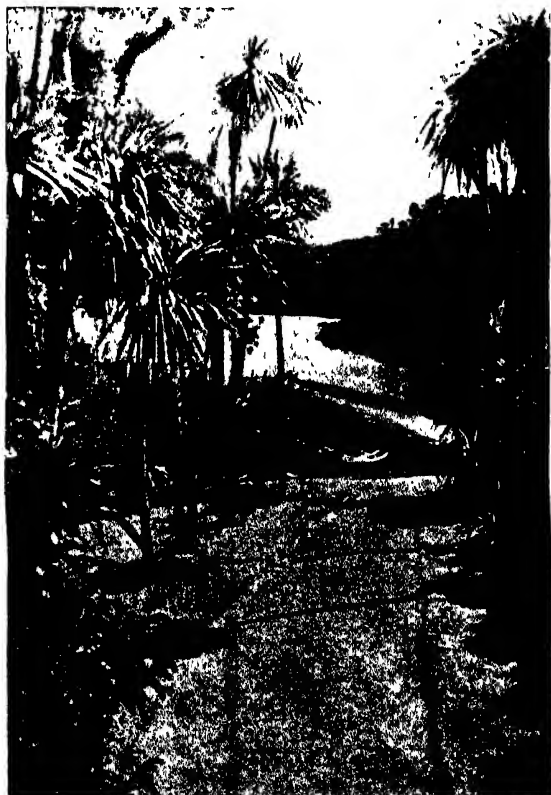
"Eire" for Ireland proper contains thirty-two counties.

The land-area of the twenty-six counties is 26,600 square miles, and the population in 1951 was approximately 2,960,600, i.e. 111 per square mile. The land-area of the six counties is 5237 square miles, and the population in 1951 was approximately 1,369,600, i.e. 262 per square mile.

Physical Features. One might sail round Ireland from Dublin Bay by Wicklow and Wexford, and then round by the Atlantic coasts south, west, and north, and back again to the narrow Irish Sea as far as Dundalk, without seeing anything to suggest that Ireland was other than a land of mountains. Almost everywhere, except along the strip of coast from Dundalk to Dublin, the mountains rise either sheer from the sea, or else at no great distance from the coast. Yet the interior of the country consists of an extensive plain, with lobes extending as broad valleys between the mountains to the sea. The country is in fact a very worn-down plateau of average elevation 300 feet. The mountains form the outer bulwarks or buttresses of the plateau. The plateau dips towards the centre and so forms the great Shannon basin, the natural gathering ground for the water collected from the higher lands.

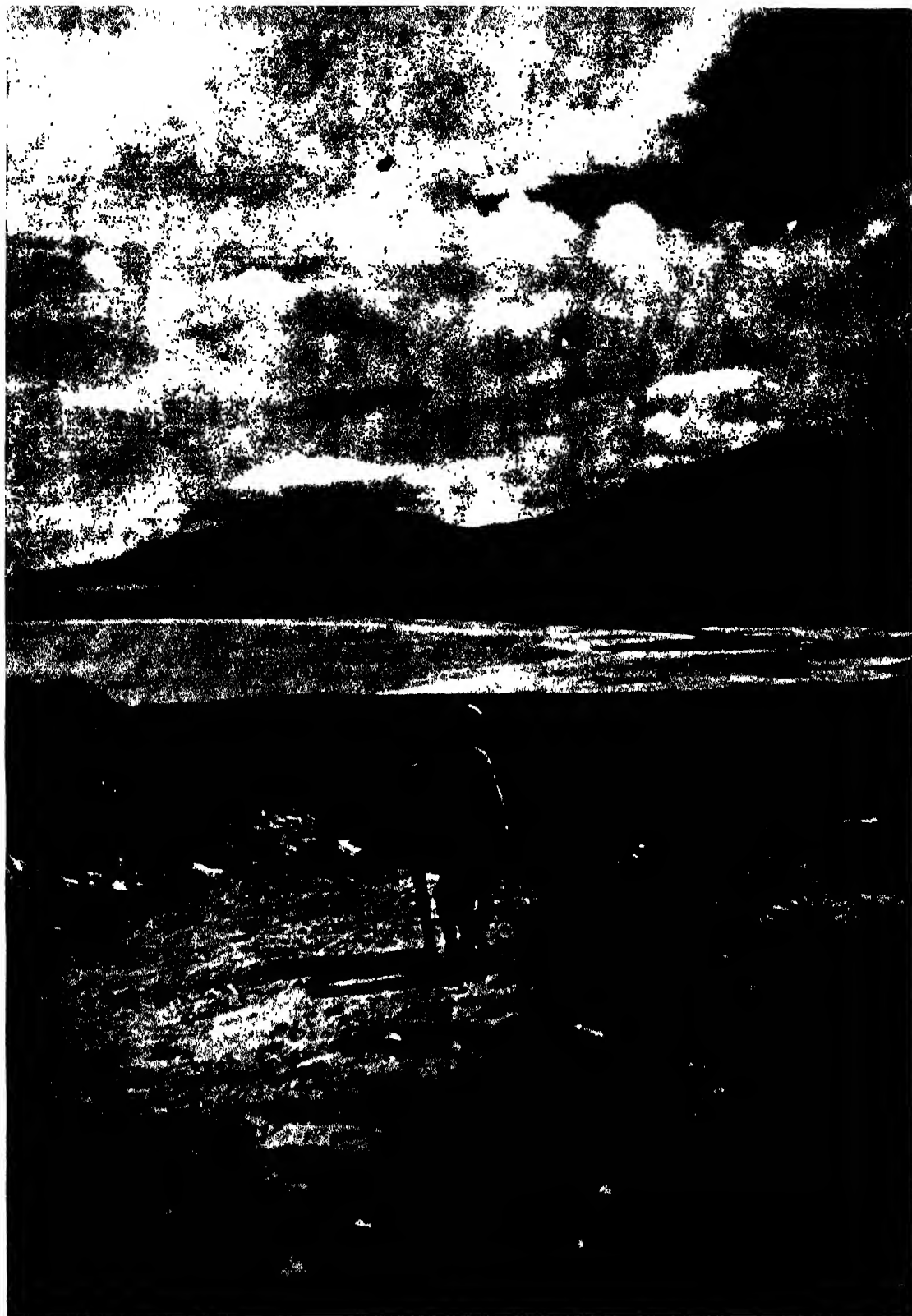
The mountains that buttress the plateau fall naturally into two systems: (1) the north-east to south-west ranges; (2) the east and west ranges. The former ranges extend through Donegal, Sligo, Mayo, and western Galway on the one hand, and from Dublin Bay to Waterford on the other. Also they form a ridge extending continuously along the south of Ulster from Cavan north-east to the centre of County Down. These mountains all have a core of granite, flanked by old sedimentary rocks; sands of ancient seas now hardened into quartzite, muds now altered to slates and flags. They have their counterpart in the mountains of north-western Scotland and of Scandinavia.

The east and west ranges extend in parallel rows right across Munster. They appear again towards the north of the Shannon basin, and extend as a broad plateau through south Tyrone. These mountains have their counterpart in Devon and Cornwall and in southern Wales, and again in Brittany. They have a core of Old Red Sandstone. This was no doubt formerly covered by limestone, and limestone



SEMI-TROPICAL VEGETATION

Palm trees looking towards the sea at Parknasilla, County Kerry
Photo: Irish Tourist Association



LAKESIDE SCENE IN COUNTY KERRY, REPUBLIC OF IRELAND

Photo Irish Tourist Association



THE GALWAY MOUNTAINS

The town of Clifden, County Galway, against a background of barren, rocky peaks, the Twelve Pins

Photo Irish Tourist Association

still remains on the flanks of the Munster ranges and in the valleys between the ranges.

Along the south of the central plain, these Old Red Sandstone ranges trend slightly north-east and south-west, having had to adjust themselves to the more ancient Leinster Range which lay in their path when the Earth foldings which caused them occurred.

Behind these mountain groups stretches the central plain of Ireland, with its floor of carboniferous limestone, deeply covered with boulder clay, and in many places, as in west Meath, encumbered with glacial gravels. Fertile limestone valleys occur between the hill ranges and form natural outlets from the plain to the coast.

Other mountain groups, not belonging to either of the two great systems, occur in the north-east. These are (a) the lava plateau of Antrim and Derry, and (b) the Mourne Mountains in south Down. The Mourne Mountains consist of a roughly ring-shaped granite range surrounding the superb granite dome of Slieve Donard. They are believed to be due to a subterranean cauldron of the same period as the lava flows which poured out the basalt that covers the Antrim and Derry plateau; that is to say, they were formed long after the upheaval of the older granite ranges, and even long after the limestone of the central plain of Ireland had been laid down.

From the Mourne Mountains the River Bann flows to Lough Neagh. The Antrim and Derry plateau is warped up at the edges and slopes inward towards Lough Neagh, which occupies a depression in the centre of the Plain of the Bann. The surface of Lough Neagh is only forty-eight feet above sea-level. The lake is the great meeting place of all the tributaries of the Bann, and the Lower Bann issues from the lake as a very large river. After the central plain, which may be called the Plain of the Shannon, the Bann Plain is the only other considerable plain in Ireland, and it is significant that just as the chief port of the Shannon Plain is not Limerick, near the mouth of the Shannon, but Dublin on the Liffey, which opens east, so the chief port of the Bann Plain is not Coleraine, near the mouth of the Bann, but Belfast on the Lagan, which also opens east. Dublin has canal communication with the Shannon and with the central plain. Belfast has canal communication with Lough Neagh and so with the Bann Plain. The Liffey Valley affords an easy way to the Irish Sea for the land routes from the central plain, and the Lagan Valley affords an easy way to the Irish Sea for the land routes from the Bann Plain.

Soil, Gravels, and Peat. In Ireland all the evidence points to the fact that, since the main features of the rock floor of the country

were formed, a lengthy period of glaciation subvened. During some part of the Great Ice Age a vast ice-cap must have covered the entire country. The snow dome, which was constantly being compacted into ice by the weight of new falls of snow on its surface, was heaviest over the region which is now Fermanagh (the county of the larger Erne lakes). From there the ice pushed its way out on all sides towards the sea, smoothing out the mountain sides, over-riding and rounding the lower hills, and carrying in its base, as grinding

become so compact as to be impermeable, so that wherever a basin-shaped area occurs, the water lodges on the surface, thus forming shallow lakes.

The more than ordinary mildness of the climate favoured the growth of sphagnum and other mosses which took root in these marshy places and thus it comes that vast areas of the central plain of Ireland, and also of the plateaux wherever they are basin-shaped, are covered with bog. In all, one-seventh of the surface of the whole island is covered with peat bog.



HORSEBREEDING

A scene characteristic of one of Ireland's oldest rural industries which is still a source of great wealth

Photo: Irish Tourist Association

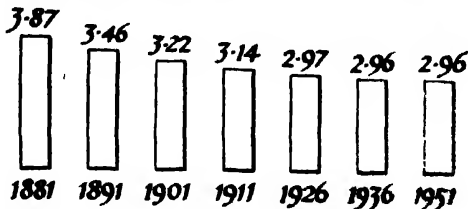
tools, the rock-fragments collected on its passage. When the ice melted away, it left behind it practically all over the country a thick deposit of boulder clay. Across the plain, and wreathed round the plain-ward side of the mountains which abut on the plain, it left low irregular hills of gravel (called in Ireland *eskers*). Later, the rivers and lakes at periods of overflow spread alluvial soil over much of the boulder clay.

The river soil is rich and easily worked. The boulder clay is also rich (on account of the mixture of rock materials from different localities which it contains) but in many cases it is clammy and difficult to work. That is so chiefly because the rock powder of which it consists is so finely ground. It contains boulders of different sizes and that is why it is called "boulder" clay. But the body of the clay itself is as fine as flour. The lower layers of it

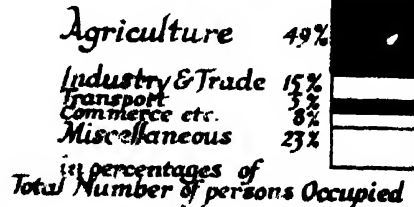
Mineral Resources. In the matter of mineral wealth Ireland has rather limited supplies of coal (see under "Sources of Power"), and very little iron. But she has more than she needs of building stone, notably granite and limestone. Excellent grey granite occurs in the Mourne Mountains and in the Newry-Slieve-Croob Range, and also in the Leinster Range (Dublin and Wicklow), and in Donegal. Pink granite is found in Wexford, and a beautiful granite speckled green and pink occurs in Connemara. The whole central plain of Ireland and the valley floors in many of the mountainous districts are of limestone. The limestone is very freely used in building, for it is easily cut into blocks of any required shape. It is used also for road metal, and for fertilizing land in mountain or in boggy districts where there is a deficiency of lime. It is one of the chief raw materials in the

REPUBLIC OF IRELAND

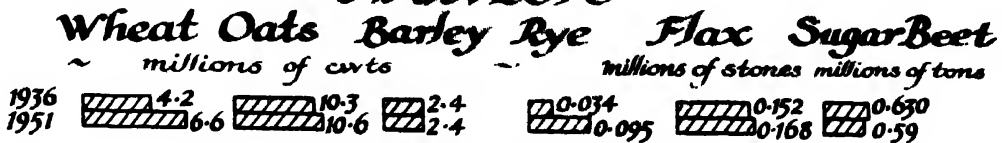
POPULATION in millions



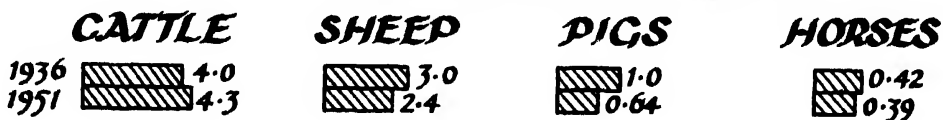
Occupational Distribution



HARVESTS



LIVESTOCK in millions.



TRADE 1951 in £ thousands

IMPORTS

3,002
49,131
149,081
3,286
204,500

LIVE ANIMALS

FOOD, DRINK & TOBACCO

RAW MATERIALS & MANUFACTURED GOODS

MISCELLANEOUS

TOTALS

EXPORTS

29,800
34,496
14,647
805
79,748

Re-exports total 1,677

BY PRINCIPAL COUNTRIES IN 1951 in percentages

IMPORTS

Gt. Britain 45.2
N. Ireland 1.3
U.S.A. 12.5
Canada 4.4
India 3.5

EXPORTS

Gt. Britain 71.4
N. Ireland 13.3
U.S.A. 4.0
Western Germany 1.5

cement factories that were opened in 1938, one at Drogheda on the Boyne and one at Limerick on the Shannon. For the other chief raw material for cement Drogheda has shale close at hand and Limerick has deposits of suitable clay.

In the north, at Magheramorne, near Larne, some of the "white limestone," i.e. the chalk which underlies the basalt of the Antrim Plateau, is used in the manufacture of cement.

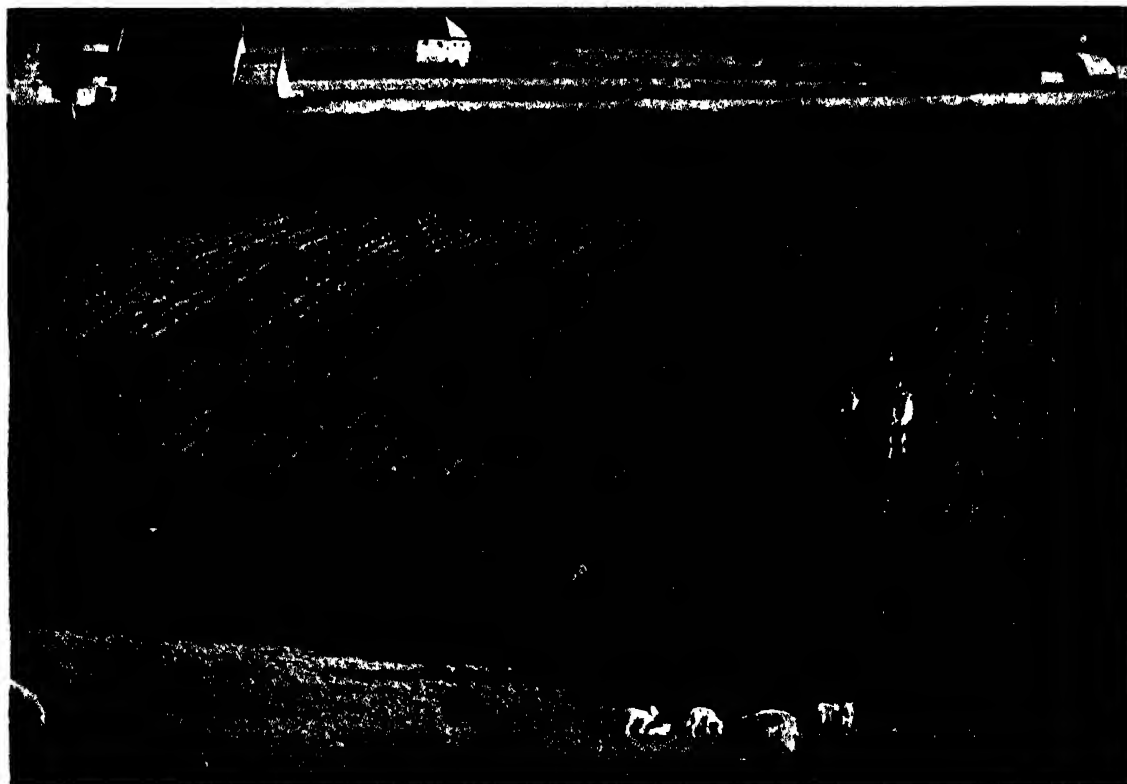
In the south some of the finer grained Old Red Sandstone is used for building and the coarser kinds are used for road-metalling, etc. In the north some basalt is crushed for road metalling, and basalt is also exported from the small ports along the Antrim coast to Scotland, where it is used in the foundations of new concrete roads and for pavements.

In many districts the limestone beds have become altered to marble, and this is much used for decorative purposes. In Cork, near the Old Red Sandstone country, the marble is red. In Kilkenny, near the coal measures, it is black. In Galway some is green and some black. In Rathlin, Antrim, the chalk has been altered to white marble.

The gravels of the central plain and of the Tyrone and other *eskers* are now being extensively used for concrete buildings and concrete roads.

Slates occur near Carrick on Suir (in south Tipperary and south Kilkenny), and also in south Cork, and in Valencia. Near Killaloe, but on the Tipperary side of the Shannon, very fine slates occur. These are being worked for roofing in the new housing schemes.

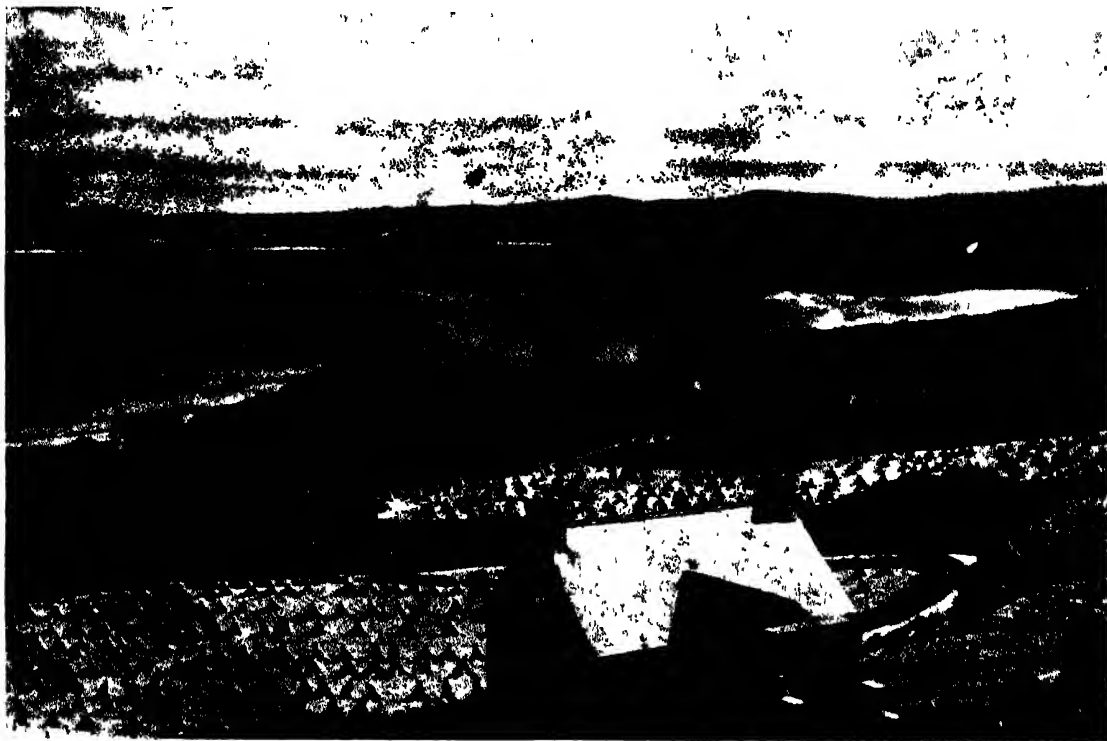
Clay suitable for making bricks and tiles is found in many parts, notably in counties Wexford and Dublin; the manufacture of bricks and tiles is going ahead in those counties. Near Kingscourt, in County Cavan, deposits of gypsum occur and these are being worked for the manufacture of plaster. Gypsum also is found near Carrickfergus, north of Belfast Lough, and with it there occur here large deposits of salt, which are being successfully worked. In the Antrim plateau the weathering of the basalt in past ages has left occasional beds of reddish and greyish earths which contain iron ore and aluminium ore respectively. Some carbonate of iron occurs round Arigna. Barytes occurs chiefly in Munster (Ballydehob, in



THE POTATO GROWING INDUSTRY

Setting early crops of potatoes at Newtownwards, County Down, Northern Ireland

Photo: Fax



THE DONEGAL LANDSCAPE

Countryside, rugged cliffs, moorlands and mountains form part of this picturesque scene photographed from Marble Hill, Doolanagh
Photo. Irish Tourist Association

Cork, and the Silvermine Mountains in northern Tipperary). Copper is found along the south coast and ochre and some lead and copper occur in Wicklow.

By far the greatest mineral wealth of Ireland, however, consists of the rich soil which covers the country, and it is by the cultivation of the soil and by the products of the soil that the great majority of the people of Ireland live (see page 571, "Influence of Climate on Rural Occupations"). Even without cultivation, a rich growth of grass covers a large part of the country the whole year round and is a great source of wealth.

Trees are scarce, the old forests having been ruthlessly cut away during the centuries when wood was used for smelting, but schemes of reafforestation, most of them State-aided, are being carried out both in the north and in the south. A whole stretch of mountain side has been reafforested by the monks at Mellis in the Knockmealdown Mountains, Waterford. The Government has planted large tracts on the slopes of the Slieve Bloom Mountains, while in Wicklow the estate at Avondale, the old home of Parnell, has been turned into a regular nursery of forest trees.

Fish. All over the country the rivers and lakes abound in fish. Salmon come up all the rivers, and abound in all the great lakes, notably in Lough Corrib, Galway. Below the salmon-leap in Galway one may stand on the bridge in summer to watch the salmon jump and see in the clear water below, the backs of the salmon packed as closely as the stones of a cobble pavement. Lough Owel, near Mullingar, is famed for its trout fisheries. Lough Neagh has pollen fisheries and there are eel fisheries on the Toome Falls on the Bann. The salmon and trout fisheries attract anglers from the cities and from Great Britain all through the summer.

All round the coasts the sea fisheries are important. The herring fisheries are important in the west all the year round and in summer at Dublin Bay, and at Ardglass, County Down. Mackerel, too, become important later in the summer in the ports of the Irish Sea, but there are mackerel fisheries all round the coast. All round the coast fishing villages nestle in sheltered places. Of fishing towns, Kinsale in the south, Fenit near Tralee, Arklow in County Wicklow, and Ardglass in County Down, are among the most important.



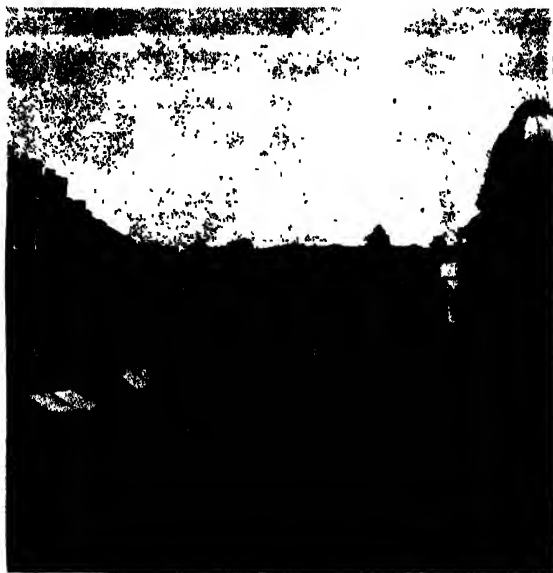
AN INHOSPITABLE COAST
The upstanding cliffs of Moher, County Clare
Photo: Irish Tourist Association

Sources of Power. Ireland has anthracite coal in Kilkenny and eastern Tipperary. This is used locally in the linen factory in Kilkenny, and some in the Carlow Sugar Factory, but the amount used outside these places is negligible in comparison with the amount of coal imported. There are other coal measures, ordinary bituminous coal, (a) near Dungannon and Coalisland in County Tyrone, and (b) in the Arigna Plateau round Lough Allen, the uppermost of the Shannon Lakes. But in these cases also the output is negligible, for the cities are the great consumers of coal both for factories and for domestic purposes and at all of them coal can be delivered at the quayside from Great Britain much more cheaply than it could be brought from inland.

What the country lacks in coal is more than made up for in supplies of peat and of falling water. The bogs yield peat ("turf" as it is popularly called in Ireland) and "turf" is a very suitable fuel for household purposes. It is the fuel used in the country home in practically all the south and west and in the north, chiefly in Donegal and Tyrone. There is a glamour and healthfulness about the work of turf-cutting that can never be about coal-mining. In the rural areas, in the vicinity of bog land, the work of the early part of the summer, while the crops are ripening, consists of cutting the turf, spreading the "sods" to dry, and collecting them in ricks (pronounced in Ireland "reeks") near the bog road ready to be carted home when a free day offers.

In Offaly and in Kildare some peat is now being won and dried and compressed by machinery into peat "briquettes." These are used throughout the winter in all the Government offices in Dublin and in many households as well. They give a very pleasant diffusive heat, and are clean to handle just as turf itself is. The only drawback is that, relatively to their heating power they are bulky, and the difficulty of finding space for storage militates against their general use for the home fires in the city. In the rural areas no one thinks of using briquettes, for their cost would be forbidding relatively to the cost of ordinary turf. Besides, though the ordinary turf is more bulky, the problem of storage does not arise in the country, for the turf is stacked in a long "reek" outside the house. Indeed, the Irish country homestead without its "reek of turf" near the gable end is the exception rather than the rule.

Efforts are being made by the Government of the Republic to reclaim portions of the cut-away bog for reclaimed bog makes excellent land for the cultivation of potatoes. Before any reclamation on a large scale can be carried out, large central drainage arteries will have to be opened up and roads will have to be laid where now there are only causeways through the bog. At present most attention is being given to river drainage as a preliminary to this work, and the drainage on the Barrow has already helped to draw off some surplus water from the Bog of Allen.

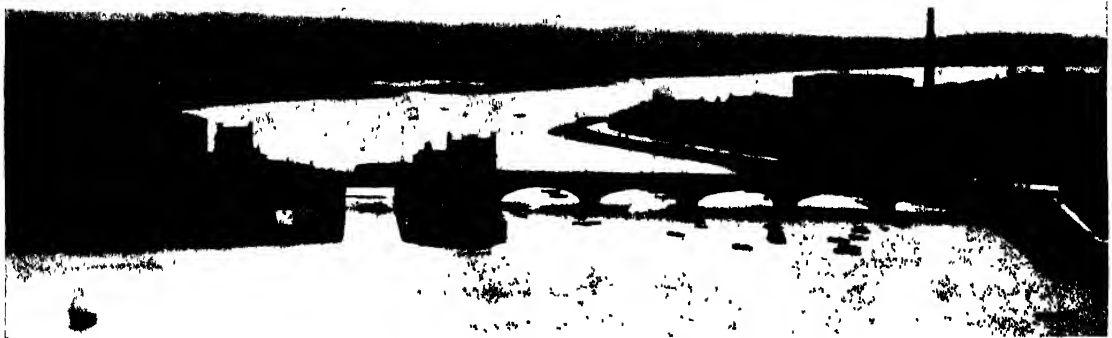


A PROVINCIAL CENTRE
Patrick Street, Cork
Photo: Irish Tourist Association

Water Power. The basin-shaped central plain drains to the Shannon. The Shannon is a long winding river with many spreading lakes eaten out of the limestone floor of the plain. These lakes act as natural reservoirs to regulate the flow of the river. The surface of the lowest of the Shannon lakes, Lough Derg, is ninety-seven feet above sea-level. The river issues from this lake through a gorge below Killaloe, between the Slieve Bernagh Mountains (east Clare) on the one hand, and the Slieve Ara Mountains (north Tipperary) on the other, and falls rapidly to the level of the sea above Limerick. Here, then, was the natural spot at which to erect a hydro-electric

station, almost Arctic conditions prevail. Part of Siberia in the same latitude is snow-bound for half the year. In Ireland there is little range of temperature: the January mean is 40° Fahrenheit and the July mean is 60° Fahrenheit, a fact which is largely due to the prevailing westerly winds blowing from the ocean, the temperature of which is almost constant at 50° Fahrenheit.

The south-westerlies themselves come to Ireland moisture-laden, and they part with much of their moisture in passing over the country. Thus they bring not alone the gift of soft rain to help vegetation, but also a considerable amount of warmth, for the water-vapour



THE RIVER SHANNON AT LIMERICK
Photo. Irish Tourist Association

station. Vast works were undertaken in 1926, and a power-house was erected at Ardnacrusha above Limerick. Within five years from that date, cables were transmitting electric current to every important centre in the twenty-six counties.

More recently a joint effort by the Republic and the Northern Ireland authorities has resulted in the development of the River Erne power scheme, culminating in the opening in 1952 of new generating stations at Ballyshannon. This was not only a major engineering feat giving a substantial and vitally needed addition to the existing power supplies but it showed what co-operation between the two governments could achieve because, although the River Erne flows into the sea at Ballyshannon in the Republic, both upper and lower Lough Erne, the levels of which had to be controlled and regulated, are in County Fermanagh in Northern Ireland.

Climate. Ireland is situated in latitude 51½° to 55½° north. No other country in so high a latitude has so mild a climate. In Labrador across the Atlantic in the same

latitude, almost Arctic conditions prevail. Part of Siberia in the same latitude is snow-bound for half the year. In Ireland there is little range of temperature: the January mean is 40° Fahrenheit and the July mean is 60° Fahrenheit, a fact which is largely due to the prevailing westerly winds blowing from the ocean, the temperature of which is almost constant at 50° Fahrenheit.

Influence of Climate on Rural Occupations. Given a sufficiency of moisture, and given sunlight, vegetation will go on growing as long as the temperature does not fall lower than 43° Fahrenheit. In Ireland this happens only for short periods in winter, and so there is grazing for cattle for eight or nine months each year. Again, in the valleys which are sheltered from the north, especially in Munster, frosts are rare and the cattle can be left in the open far into the winter. This gives Ireland a great advantage for cattle raising and especially for dairying. Cattle that live in the open are healthier, their flesh is better and their milk is better than that of cattle that have to be too long housed. All down the centuries, cattle-raising and dairy-farming (with its associated occupations, pig and poultry rearing) have been the staple work of the rural population. In the old time the standard of value was the price of a cow. Still to-day the country folk, especially in Munster, reckon a man's

estate, not in terms of statute acres, but as a "place of so many cows."

This mild, moist climate and rich soil tend to make the country very fertile. The climate is particularly suited for root-crops (potatoes, sugar beet, turnips, etc.). Oats and barley grow well even on the hill slopes, and wheat succeeds in the sunnier parts (e.g. Wexford and the central counties).

Industries. The staple manufacturing industries of the country are all directly dependent

on the great fertility of the soil. Barley is largely raised in the central and south-eastern counties to subserve the brewing industry, and in the north to subserve also the distilling industry (though some barley has to be imported). The rich grass and hay make for a richness in the milk and cream and thus foster the butter and cheese-making industries. Dairy-farming always or nearly always includes pig rearing as a side-line, and the bacon-curing industry is thus favoured, with the kindred industry of sausage making.



PEASANT LIFE

1. A home spinning wheel, still widely used in the country districts. 2. Peasants cleaning flax. 3. A peat carrier near Dingle, County Kerry. 4. Collecting turf from the moorlands. 5. A white-washed cottage being re-thatched in the traditional style. 6. Harvest time

Photos. Irish Tourist Association; Ruth Mitchell



RURAL INDUSTRIES

- 1 One of the many poultry farms which have brought new prosperity to countless homesteads 2 Shipping eggs, one of Ireland's most vital exports 3 A modern creamery 4 A Tipperary factory manufacturing condensed milk

Photos. Irish Tourist Association

Sheep thrive on the grassy uplands in all the hilly districts. Along the western seaboard, where there is almost constantly mist or rain, the wool of the sheep is particularly heavy and suited for the special Irish frieze, but the wool of all the sheep is good and the woollen industry was in the old time and is again to-day one of the staple industries of Ireland, from Ballymena and Belfast in the north to Blarney and Cork in the south, and from Athlone in the centre to Dublin and Navan in the east and to Galway in the west.

Much flax used to be raised in Ulster, and the raising of it is now again being fostered to subserve the linen industry, but Russian flax for long flooded the market and thus made it difficult for the Irish farmer to raise flax profitably. Tanning was an old Irish industry. In such a cattle-producing country hides were obtainable in plenty, and the hides were tanned by long steeping in pits in the bogs. Now the tanning industry is being revived and new processes introduced.

Among the new industries recently founded the most important is the sugar industry. The

growing of the beets gives much employment throughout the year on the farms, and the factories are well distributed throughout the beet-growing districts. The chief factory is at Carlow, the others being at Mallow, Thurles, and Tuam. Factories for the production of industrial alcohol from potatoes have been established in Louth, in Donegal, and in Mayo, three very successful potato growing counties, and it is hoped that a certain percentage of this potato alcohol can be used with petrol for motor spirit.

The Towns. Ireland is so circumstanced as to have two capital cities: *Dublin*, the capital and centre of government of the twenty-six counties, and *Belfast*, the capital and the partial centre of government of the six counties. Other important cities are: *Cork*, on a fine natural harbour opening south, *Limerick*, at the lowest point at which the Shannon is bridged, *Galway* facing the Atlantic, *Derry*, a bridge town near the mouth of the Foyle, which opens north, and *Waterford*, a bridge town near the mouth of the Suir, which opens south. Neither Dublin Bay nor Belfast Lough

can compare with the fine natural harbour of Cork, but each has special advantages of position. Dublin Bay leads inward through the Liffey Valley to the central plain, of which it forms the natural gateway from the east. Belfast Lough leads inward through the Lagan Valley to the Plain of the Bann. Dublin Bay faces Liverpool and the Cheshire Gap gives access to London. Belfast Lough opens north-east to the Firth of Clyde and so to Glasgow. Ireland, the part of Europe nearest to America, has become an important terminus for transatlantic and continental airways and Shannon airport is used by all the big European and American lines.

Dublin. Two canals join the Liffey mouth with the Shannon, the great natural waterway of the central plain, and the more southerly of these, the Grand Canal, is linked up with the Barrow. Thus Dublin is joined by waterways with the centre and centre-south of the country. It is the hub of the roads and railways of the country and is an important airport.

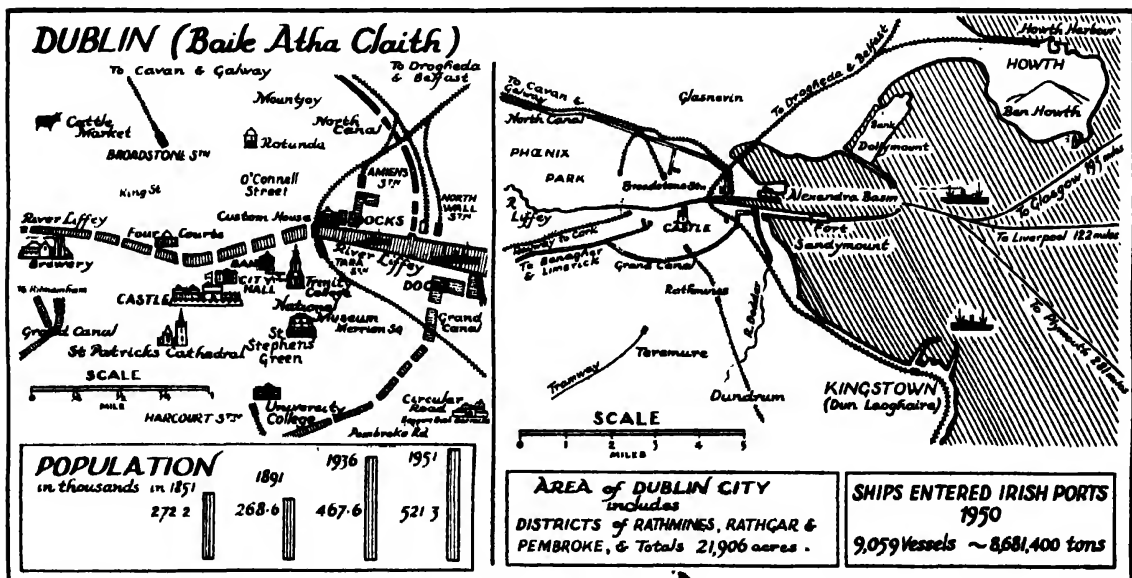
Beside the Liffey in Dublin is situated the world's biggest brewery, that of Arthur Guinness & Sons. Brewing is by far the most important Dublin industry. Guinness barges ply up and down the Liffey, bringing up to the brewery the barley that has come up the canal from the central or south-eastern counties, and bringing down the casks of porter for export in Guinness's own steamers, or for transmission by canal to different parts of the country.

Other typical Dublin industries are poplin, established here by the refugee Huguenots;

Jacob's biscuits, which have a world market; soap and candles, which are a very old Dublin industry dating back to the time when tallow was the chief ingredient used. Matches, jams, tobacco, woollens, shoes, some linen, tiles, and a number of other commodities are now also being manufactured in Dublin, chiefly for the home market. Vast oil refineries are being constructed at the Liffey mouth, the project being partly British and partly Irish.

Dublin, on the whole, is much less important as a manufacturing city than Belfast. It is a great collecting and distributing centre, a great shopping centre, a great centre of educational institutions, of banking, and of insurance, and is a literary, artistic, and social centre. It is the seat of two University Colleges; one, Trinity College, the only College of Dublin University founded by Queen Elizabeth of England for the spread of the Protestant religion in Ireland; the other, the National University, founded in 1912 in response to the Nationalist demand for a University in harmony with the wishes of the majority of the population. The National University has also a college in Cork and one in Galway, and the Catholic ecclesiastical college (St. Patrick's, Maynooth) is affiliated to it. Trinity College still remains the Protestant ecclesiastical college, but it has faculties in Medicine, Engineering, and also Science. There is now no religious test for persons entering either University, but speaking generally, Dublin University is Protestant and the National University Catholic.

In Dublin each August is held the Horse





DUBLIN

O'Connell Street

Photo Irish Tourist Association

Show, to which come visitors and competitors from all Ireland and from overseas. The Irish race-horse, bred on the limestone plains, fetches fabulous prices at the sales which follow the show.

Belfast. The northern capital is connected by waterway (Lagan Canal) with Lough Neagh and so, by the Lough Neagh Navigation System, with nearly every town of importance on the Bann Plain. It is the hub of the roads and railways of the north-east, though Derry (Londonderry) and Enniskillen are also important centres. It is a city of much more recent growth than Dublin, and, therefore, is built with more system, being confronted with nothing like the serious slum problem with which Dublin has to deal. Its rapid growth synchronizes with that of Glasgow, Liverpool, and Manchester after the invention of the spinning jenny, and of the steam engine, had ushered in the Industrial Revolution. Belfast, facing the Ayrshire coal-fields and those of north-western England, was well placed for the import of coal for her growing manufactures.

In the seventeenth century, Ireland had an important woollen trade but, towards the end of that century, laws were passed forbidding the export of Irish woollen goods to any country except England. This was done because English

traders believed that Irish woollen goods were spoiling the English foreign market. This ruined the woollen trade for the time, and in compensation King William III brought over to Lisburn, near Belfast, a French Huguenot refugee who had been at the head of a linen factory in France, and helped him to found a linen industry. Government grants were made to help and before another century had passed the industry was firmly established in the north. To-day it is the staple manufacturing industry in Belfast, and in all the towns of the north-east. Subsidiary and kindred industries, such as the making of shirts and collars at Derry, of linen handkerchiefs at Portadown, of ropes, twine and sailcloth at Belfast, of cotton at Larne, and of lace at Newtownards, have grown up around the linen industry. Though many of the towns import some of their raw material directly (e.g. Coleraine, Derry, Newry, Larne) Belfast is the great collecting centre and export centre for the manufactured goods.

Other great industries in Belfast are distilling (Belfast has the world's largest distillery), soap and candle making, tobacco and ship-building. A factory for the production of industrial alcohol from molasses has also been erected in the city.

Belfast has its own University, the Queen's, founded at the same time that the National University was founded in Dublin, Cork, and Galway. To the Queen's University is affiliated Magee College, Derry, which is the Presbyterian ecclesiastical college in Ireland. Belfast has also an important Technical Institute. The municipal spirit is very strong, and every Belfast citizen is justly proud of the City Hall, a beautiful structure standing in the very centre of the city, and surrounded by an open space provided with shrubs and flowers. The

House of Parliament, Stormont Castle, built on high ground in the centre of a large park outside the city, does not seem to loom half as largely in the life of the ordinary citizen as does the City Hall. Bangor, on the south side of Belfast Lough, though a Municipal Borough in itself, is really a residential quarter for Belfast. In summer a special non-stop train, the "Portrush Flyer," brings Portrush and Portstewart near enough to Belfast to be also called residential quarters of the city. Along the Antrim coast near to Portrush is the

Giant's Causeway, where the basalt of the Antrim lava, in cooling slowly, formed itself into regular hexagonal prisms. These extend in regular series along the coast and they are one of the great natural curiosities of Ireland. The "Portrush Flyer" and the bus services make the Giant's Causeway easily accessible from Belfast.

Belfast is connected by regular air routes with the important towns and industrial centres of England.

The Rural Population.

Though the two chief cities account between them for one-fifth of the population, Ireland still happily remains a country where the great majority of people dwell in the open country, and where the most important occupation is work on the land. The great majority of the agricultural workers, whether in the north or in the south, are small farmers. It is only in Meath, the great cattle grazing area for the Dublin markets, that the large grazing ranch is common.

During the winter the cattle and farm animals generally are housed and have to be attended to; hay has to be brought to their stalls, turnips, etc., have to be mashed and fed to them. Their sheds or stables have to be cleaned out daily and the animals let out to drink or to stand in the sun about noon. The fencings have to be attended to, the fields have to be



BELFAST FROM THE AIR

Above: A view of the Ulster Parliament Building at Stormont. *Below:* The industrial part of the city and the Donegal Quay

Photos: Central

drained and ploughed. Winter wheat is sown. Then, when spring brings the lengthening days, the other crops are sown, potatoes, beets, turnips, oats, etc. In the early summer, when the dry days come, the work of cutting turf and putting it to dry has to be done in all haste so that as soon as the meadows are ready for mowing they can receive attention.

If the weather does not break, the hay-making time is a happy time for old and young. The women folk bring the midday meal to the men in the fields. The children hasten from school to help at tossing the hay. If the days come wet before the hay is dry the farmer has only to bear it. But such are not idle days. There is always something to be done around the stable. The horse has perhaps to be shod, or the plough to be mended.

In the later summer the oats and barley and wheat have to be cut and stacked and saved and brought home. Then come the ploughing out of the potatoes and of the beets, then the threshing of the corn and its carting to the mill. Already winter is closing in. The fields have to be prepared and manured. The pig must be killed and salted for meat for the winter. The cattle are housed again. Again around the turf fire at night in the farm kitchen, with the good thatched roof overhead, the women folk knit or sew or darn and the man reads the paper for them and the young folk play, or the American letter is taken down and read again (for what family in Ireland has not a son or daughter or aunt or uncle in America?). "America" is the big city to which generations of young Irish people have fared to find a living and only the "quota" in the United States of America was able to arrest the tide of Irish emigration.

About 2,500,000 persons of Irish extraction now reside in

the U.S.A., and the number in Canada has passed the 1,000,000 mark. Emigration to both countries is tending to decline, however.

Conclusion. In the case of Ireland, even more than in that of other lands, the best book for the study of the country is the open face of the country itself. From a few journeys to characteristic parts of this land of lakes and rivers, of crop growing and cattle raising, one will gain a clear impression of the broad basin-shaped peninsula, buttressed round by ancient mountains, through which deep valleys run down to the sea.



TOWN AND COUNTRY

Above. A scene at the Cashel Fair, County Tipperary. Below: Through the Gap of Dunloe, County Kerry, in the days of jaunting cars

Photos: Irish Tourist Association

ISLANDS OF GREAT BRITAIN

NORTH, west, and south of Great Britain lie numerous islands of varying importance. Those of Scotland fall into four main groups, the Shetlands, Orkneys, Hebrides, and the Firth of Clyde islands. The larger islands of England and Wales are off the west and south coasts; they are the Isle of Man, Anglesey, the Isle of Wight and the Channel Islands. On the east coast, off Northumberland, are Farne Island and Holy Island.

Orkney Islands. The Orkneys, with a total area of 376 square miles and a population of 21,258, are separated from the mainland of Scotland by the Pentland Firth. They are a group of ninety, but only twenty-nine are inhabited. The chief are Mainland (207 square miles), Hoy (53), Sanday (26), Westray, South Ronaldshay, Ronsay, Stronsay, Eday, Shapinsay, Burray, Egilsay, Flotta, and Noup Head. With the exception of Hoy, which has fine cliffs, the islands are low and treeless. Ward Hill, on Hoy, is the highest point, and one isolated pillar of rock, caused by the action of the waves and known as the "Old Man of Hoy," is 450 feet high. A famous waterway of the islands is Scapa Flow, which, during the World Wars was a main base of the British Home Fleet.



FLOWER PICKING IN THE SCILLY ISLANDS

Photo: Central

The islands are well cultivated here and there, but in the main the methods are primitive, and a number of the islands are used for pasture only. Most of the crofters are also fishermen, for agriculture and fishing are the principal industries.

The only towns are Kirkwall (population, 4348), the capital of the group, on the north coast of Mainland, and Stromness, which is the chief port.

Shetland Islands. The Shetlands, a group of more than 100, with a total area of 551 square miles, has a population of 19,343. Lying about eighty miles north-east of the Orkneys, they form the northernmost county in Scotland. The general appearance of the islands is bleak, and their chief attraction is the beautiful cliff scenery. Often the cliffs are more than 1000 feet high.

The largest of the twenty-seven inhabited islands are Mainland (378 square miles), Yell (83), Unst (47), Fetlar, Bressay, Whalsay, and Foula. The surface is more rugged than that of the Orkneys. Ronas Hill (1475 feet) in Mainland, is the highest point. Sneug, in Foula, rises to 1372 feet. The soil is peaty, barely one-sixth of the area being under cultivation. The table tops of the tiny islets give pasture to the sheep. As in the Orkneys, the inhabitants are mostly fishermen or crofters, very often both.

A special breed of Shetland ponies and the soft wool of the long-haired Shetland sheep have become famous. The finest Shetland wool, so often knitted into beautiful shawls, comes from Unst, the most fertile of the group.

Lerwick, the most northerly town of Great Britain, is the county town. It stands on the east coast of Mainland, sheltered from the seas by the island of Bressay. It is the centre of an important fishing industry. Scalloway, former capital of the Shetlands, is an old village standing on a bay of great beauty.

The Hebrides, or Western Isles. These are groups lying off the west coast of Scotland, extending from Sutherland to Argyll, numbering more than 800, of which, however, only



THE WESTERN ISLES

1. Women of the Hebrides scraping Crotal, the natural Lewis and Harris tweed dye, from the rocks. 2. A crofter's cottage at Leverburgh, Harris. 3. Clipping and marking sheep beside a loch. 4. Unloading peat, the peasants' fuel, in the Isle of Skye

Photos: Scottish Travel Association; Wide World

102 are inhabited. The total area is 2812 square miles and the population numbers nearly 80,000. Only about 300 square miles are under cultivation. The Hebrides are divided into two groups, the Outer Hebrides and the Inner Hebrides.

The Outer Hebrides are separated from Skye and the mainland by the Minch and Little Minch. The chief and largest island, known locally as Long Island, is named Lewis in the northern half and Harris in the southern. Other islands in this group are North Uist, South Uist, Benbecula, and Barra, and there are several smaller and desolate islets. Most of the land has an elevation of less than 500 feet and much of the surface consists of rounded bosses of bare rock and numerous little fresh-water lakes. Chief indentations on Long Island are Lochs Erisort, Seaforth, Resort, and Roag. The Butt of Lewis, a striking promontory at the extreme north, rises sheer from the sea to a height of 142 feet.

Pasture is very limited. The kelp industry (burning of seaweed for iodine) has declined, and the inhabitants depend on farming the poor peaty soil, and on the herring fisheries. In the remoter districts the houses, built low to avoid the effect of the wind, are of the simplest construction. Harris is noted for its hand-woven tweeds. Stornoway, on the east coast of Lewis, is the only town, and is the centre of the fishing industry.

North Uist, an island seventeen miles long and thirteen miles wide, is nearly half covered with water. Its port is Lochmaddy. St. Kilda, now a bird sanctuary, is a lonely group of four small islands forty miles west of North Uist.

Chief islands of the Inner Hebrides are Skye (643 square miles), Mull (367), Jura (160), Islay (235), Eigg, Coll, Tiree, Iona, Staffa, Ulva, Lismore, Kerrera, Colonsay, Oronsay. A large part of Skye and Mull, and some of the smaller islands, are covered with a thick layer of basalt.



THE ISLE OF WIGHT

Above: The "Old Village" of Shanklin. *Below:* Freshwater Bay, typical of the beauty of western Wight

Photos British Railways

High mountain ranges in the Inner Hebrides are the Coolins and Red Hills (Ben Cailich, 2403 feet) on Skye; Ben More (3185 feet), Ben Buy (2354 feet) and Ben Creach (2289 feet) on Mull; and the Paps of Jura (Beim-an-Oir, 2571 feet), on the island of Jura.

Mull is separated from the mainland by the Sound of Mull and the Firth of Lorne. It has several high peaks, already mentioned, and on the west is deeply indented by sea-lochs, of which Loch Scridain is the chief. The soil is fairly fertile and there is grazing of good quality. Granite is produced from the hill quarries. Tobermory, in the north, is the only town of consequence.

Skye is mostly a mountainous island, the Coolin Hills stretching irregularly from the

south-west to the north-west. The coasts abound in herring, salmon, cod, and ling. Though sheep farming predominates, there is a considerable industry in the breeding of Western Highland cattle. Portree, the only town on Skye, is the headquarters of the fishing fleet. The town is built on a platform of rock which presents towards the harbour a cliff face of about sixty feet in height.

Islay, the most southerly Hebridean island, is one of the largest, being about twenty-five miles long and twenty miles broad. The west side is deeply indented by Lochs Grumart and Indaal. Eigg possesses a modern and enlightened crofter system, the ancient stone and turf shanties having been replaced by stone dwelling houses. Rum has been almost deprived of its population and has been turned into deer forests and sheep runs.

The columnar aspect of basalt is particularly well shown in Staffa. Here the sea has eroded several caves, and one, known as Fingal's Cave, is sixty feet high and 200 feet long. South of Staffa is the small island of Iona, famous for the ruins of a cathedral.

Islands of the Firth of Clyde.

A further important group of Scottish islands lies in the Firth of Clyde, forming the county of Buteshire. The chief islands are Bute (population, 12,000), Arran (4500), Great Cumbrae (2000), Little Cumbrae, Holy Isle, Pladda, Inchmarnoch, and several smaller islands. The total area of the county is 218 square miles.

Bute is separated from the mainland of Argyll by the narrow semicircular straits known as the Kyles of Bute. Its surface to the north is high, barren and rugged, but the centre is comparatively fertile. Most of the arable land is under tillage and agriculture is in a good state. The chief crops are oats, turnips, and potatoes.

Arran, lying south of Bute and close to the long arm of Kintyre, has a mass of rocky

mountains in the north, the highest being Goatfell (2866 feet), constituting the most prominent feature of the island. Other heights are Cir Mhor (2618 feet), and Ben Tarsium (2706 feet). Southwards are heather moors and fertile farmlands. About one-tenth of the island is cultivated.

Rothsay, the county town of the group, situated on the island of Bute, is a holiday resort and a herring fishing centre. It has some importance for its shipbuilding and has also a number of linen and cotton spinning mills.

Anglesey. The chief island of Wales, Anglesey lies at the extreme north-west of the principality. The total area is 276 square miles, and the population is 50,637. The island is bounded by the Irish Sea and St. George's Channel, and separated from Caernarvonshire by the Menai Strait. It is the only county of Wales that is not mountainous.

The island yields quantities of granite and marble, and from time to time copper, lead, and silver have been mined. The rearing of cattle for beef is one of the chief occupations, and sheep are numerous. Land under the plough is largely devoted to oats. The countryside is dotted with small whitewashed farmhouses and cottages. On the north and west coasts, where the scenery is at its best, there are several village watering places.

Holyhead, one of the leading ports for traffic

between England and Ireland, owes its importance to its fine harbour. There is considerable employment, also, connected with the coastal trade, shipbuilding, and rope-making. The administrative centre of Anglesey is at Llangefni, a market town.

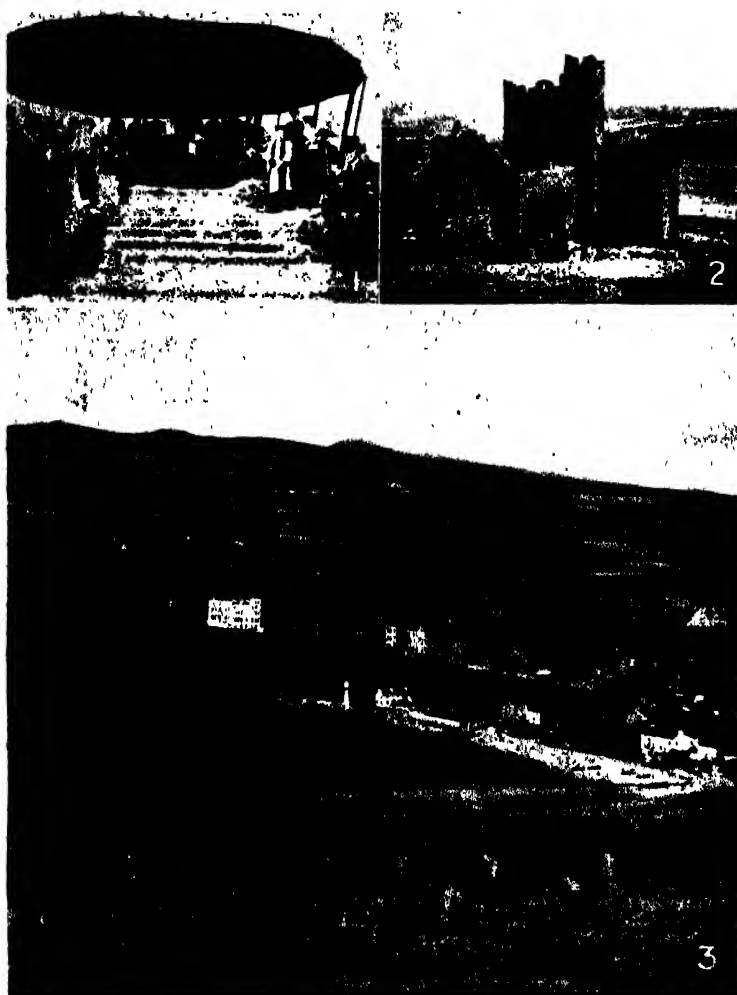
Isle of Wight. Forming part of Hampshire, the Isle of Wight lies off the southern coast of England, being separated from the mainland by the Solent, the channel ranging mainly between two and five miles in breadth. East to west, from the Foreland to the Needles, is about twenty-three miles; from north to south, Cowes to St. Catherine's Point, is nearly thirteen miles.

Chalk downs traverse the island irregularly from east to west, terminating in the west in the isolated pillars of the Needles and in the east at Culver and Bembridge. At the extreme south of the island St. Boniface Down, near Ventnor, attains 787 feet, the highest point in the island. The chief streams flow to the north, and three of them traverse nearly the whole breadth. The Eastern Yar rises on St. Catherine's Hill. The chief river of the island, the Medina, also rises at St. Catherine's, and runs directly northward to the Solent at Cowes. Towards the western extremity is the Northern Yar, which rises within a short distance of the southern coast cliffs and empties at Yarmouth.

The Isle of Wight has long been well known



CHANNEL ISLANDS
St. Helier, Jersey
Photo: Jersey Airways



ISLE OF MAN

1. The promulgation of the laws in Manx and English at the ancient Tynwald Ceremony (Open Air Parliament) held annually on 5th July at St. John's, Isle of Man. 2. The ruins of St. German's Cathedral at Peel. 3. A panoramic view of Port Erin, with cornfields in the foreground and fertile pastures beyond.

Photos: Isle of Man Publicity Board, British Railways

for the mildness of its climate, which has made it one of southern England's chief holiday resorts. It has also an important agricultural industry, the soil being extremely fertile. Sheep-raising is extensive. Newport is the chief town, while Cowes, Ryde, Shanklin, Ventnor, and Sandown are well-known resorts.

Channel Islands. The Channel Islands are a group in the English Channel, approximately thirty-three miles from the French port of St. Malo and 135 from Southampton. The most important islands are Jersey, Guernsey, Alderney, Sark, and Helig, and there are numerous islets, most of which are so barren that human habitation is impossible. Their combined area is seventy-five square miles and the total population is 102,770.

The islands have a climate which is very mild and, being sheltered from cold Atlantic winds by the shores of Normandy, they are highly suitable for horticulture and agriculture. Guernsey, on the Atlantic side, has the heaviest rainfall. The beauty of the islands and the wildness of the sea and rocky coasts have made them popular holiday resorts. The great flux of visitors each summer provides many of the inhabitants with their livelihood.

Jersey, the largest and most southerly of the islands, has an area of about forty-five square miles and a population, according to the 1951 census, of 57,296. The chief occupations of the inhabitants are connected with agriculture. Potatoes are the most important crop. Although the soil is not exceptionally fertile, and in some areas tends towards barrenness, intensive manuring by seaweed and guano results in first-class crops. Most of the inhabitants, apart from the majority of those in St. Helier, the capital, are farming people. Jersey cows are famous for their dairying qualities.

Guernsey, the second largest island, whose name means "Green Island," has an area of twenty-one square miles, and a population of nearly 44,000. The north coast is flat but the land rises to an elevation of about 300 feet. The south coast has a number of cliff-locked bays, while on the east there are Bellegrave Bay and Fermain Bay. Horticulture in varying forms is the principal industry, an export trade being carried on in tomatoes, green figs, melons and grapes. General agricultural produce, which can be grown earlier than in England owing to the mildness of the weather, is sent to London and results in a lucrative trade. There is also a certain amount of quarrying and dressing of granite. The capital of the island is St. Peter Port.

Alderney, with a population of about 1350 and an area of less than three-quarters of a square mile, consists of a granite tableland

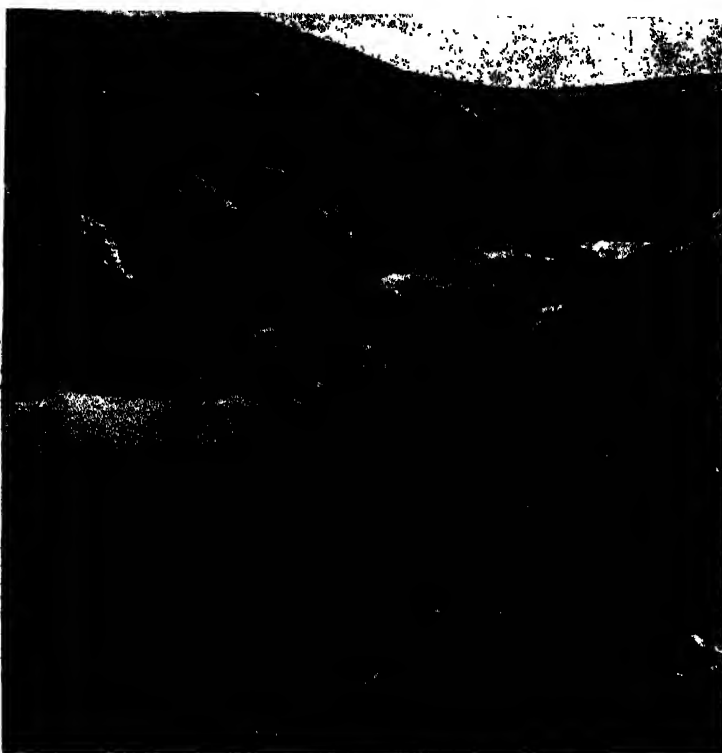
about 200 feet above sea-level. All over the island are derelict fortifications. The Braye Bay is protected from the seas by a granite breakwater. The land is cultivated and fertile; the cattle yield large quantities of milk. St. Anne is the only town on the island. About seven miles to the west are the reefs known as the Casquets, a source of great danger to shipping.

Sark, situated a little more than seven miles to the south-east of Guernsey, has an area of two square miles. There are only 500 inhabitants. The island is divided into two by a rocky gorge known as the Coupee, and the two parts are known as Great Sark and Little Sark.

Helm, the smallest island on which habitation is possible, is three miles east of Guernsey. It is one and a half miles long and half a mile wide.

Isle of Man. The Isle of Man, lying in the Irish Sea, is situated thirty miles from England and thirty miles from Ireland. It is thirty-three miles long and twelve miles wide, having a total area of 221 square miles and a population of 55,213. The surface is hilly and irregular. A chain of mountains extends from the north-east to the south-west, the highest point being Snaefell (2024 feet). Roughly parallel with this main ridge are two smaller ranges which extend in a northerly direction.

The island is a holiday resort of great popularity, and catering for visitors is now one of the main occupations. The soil is extremely fertile and nearly half the island is under cultivation. The principal agricultural produce consists of oats, barley, turnips and potatoes, and grasses. Cattle rearing is important and each year many head of fat cattle are shipped to the English markets. Market gardening is increasing, especially in the south-east. Around the coast there are important herring and cod fisheries.



THE ISLE OF MAN

Sulby Glen, showing the motor road beside the narrow strip of meadows backed by the grass and bracken covered slopes

Photo: Isle of Man Publicity Board

The island produces lead ore of rich quality. Principal mines are at Laxey on the east coast and at Foxdale near the west.

At the south-west extremity of the island is an islet called the Calf of Man, containing 800 acres, most of which is under cultivation.

Principal towns of the Isle of Man are Douglas, the capital (20,288), Ramsey (4607), Peel (2582), and Castletown (1749). Douglas is the only port of any size.

Other Coastal Islands. Lundy Island, rocky and precipitous, is at the mouth of the Bristol Channel. Holy Island, or Lindisfarne, a small island off Northumberland, with an area of about 1000 acres, is chiefly interesting for the ruins of a Benedictine Priory. The Farne Islands are a group of seventeen islands and some rocks off the coast of Northumberland opposite Bamburgh. They constitute an important bird sanctuary.

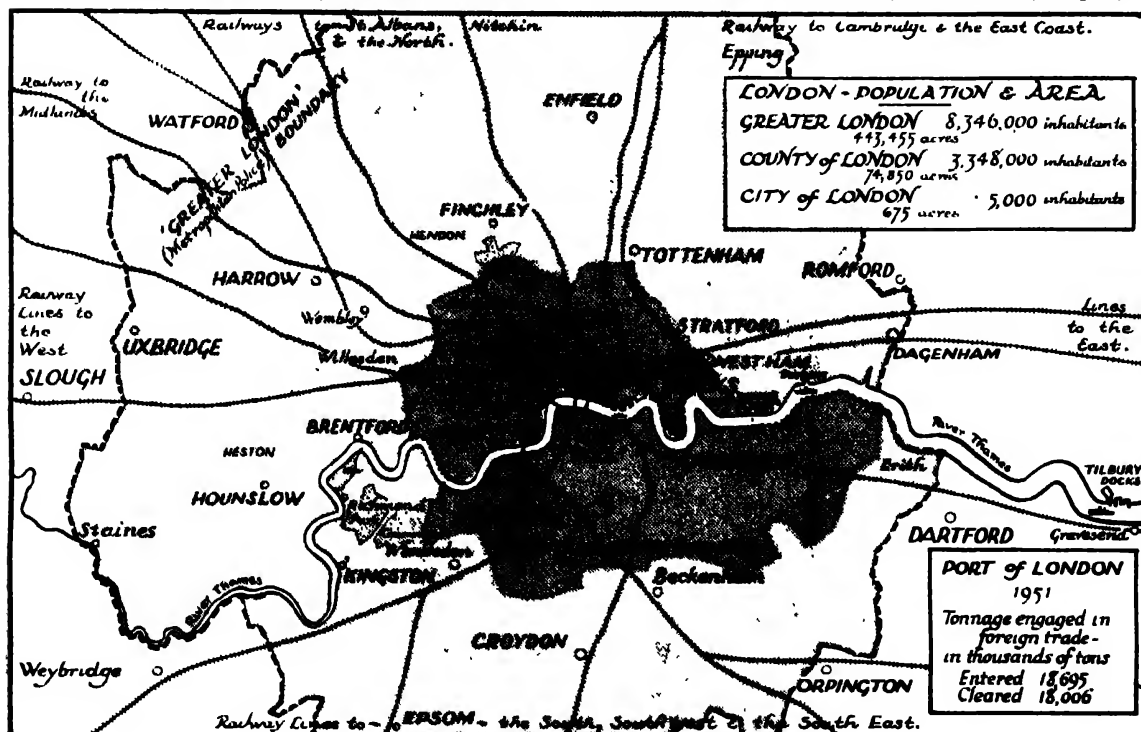
LONDON AND EDINBURGH

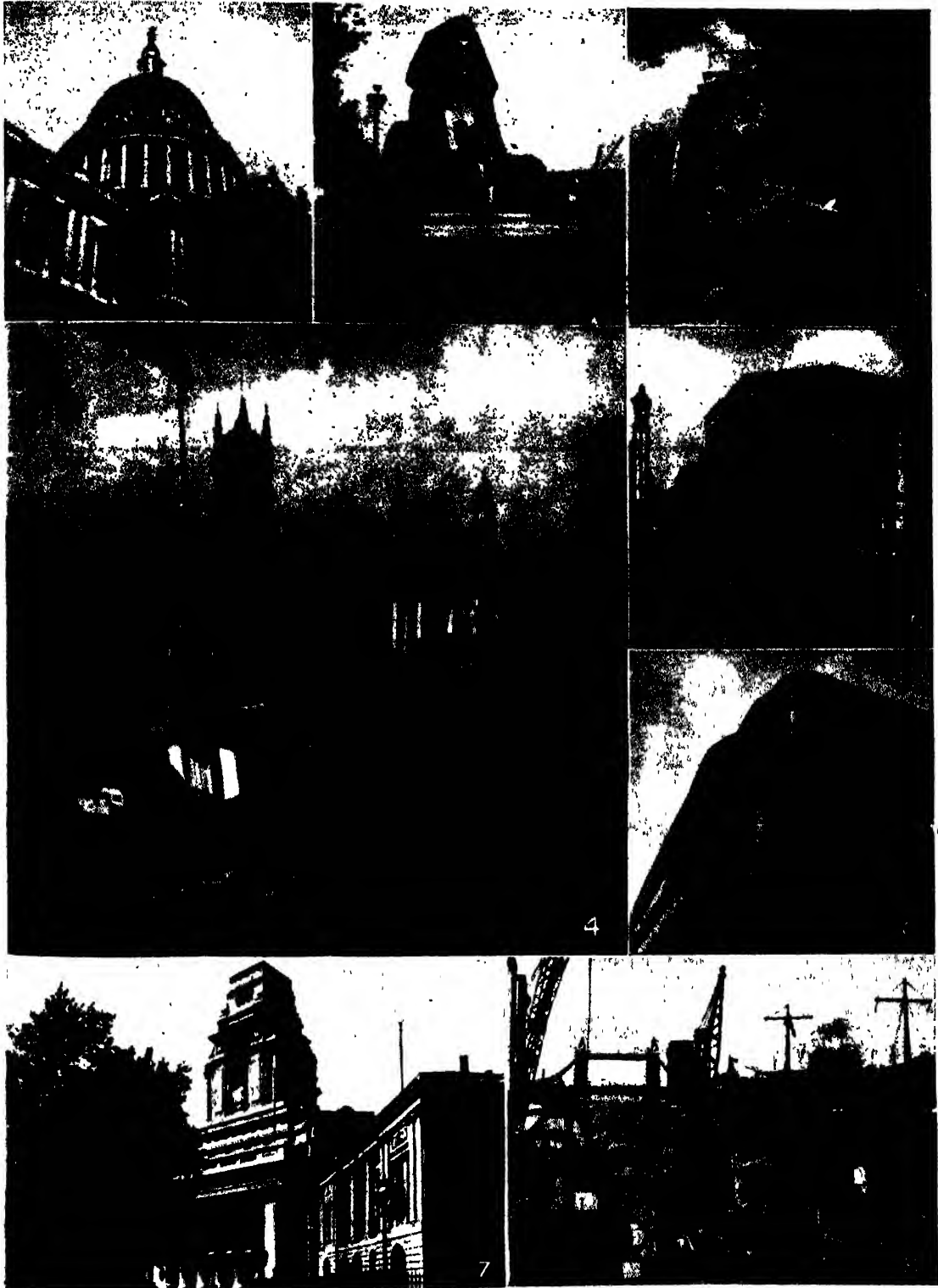
THE first written reference to London was in the year A.D. 61 when Tacitus, the Roman historian, refers to *Londinium* as a place well known as a commercial centre thronged with merchants. The site of London was by no means haphazard. The Thames in early days was a broad estuary, and the lowest point down the river where it could be forded was where the City of London now stands. Across this ford went the trackways of the Britons linking the old Kentish ports with the country north of the Thames. These in turn became the Roman roads later to become the road system of this country radiating from London. London grew on Ludgate Hill, Cornhill, and Tower Hill, protected on the west by the Fleet River, on the north by a vast forest, on the east by the marshes which are now dockland, and on the south side by the River Thames. The Pool of London and the tributary Walbrook afforded a safe anchorage for ships trading with London.

Such were the beginnings of London and by

the year A.D. 527 London had become the capital of the East Saxons. By the year 604 London was the mart of many nations resorting to it by sea and land. The Danish invasion and the Norman conquest led to an extension of London's trade with European countries and in Tudor times the sack of Anvers by the Spaniards led to London becoming the commercial centre of Europe.

Development of the Port. For many centuries the ships coming into the Pool of London were small and of shallow draught, their cargoes being loaded or discharged while the ships were beached or anchored in the river. Later on it became necessary to provide small hithes or landing places at which the vessels could be berthed and in course of time a great many wharves and quays became established on the banks of the Pool. By the end of the eighteenth century the trade of the Port of London had very greatly increased and owing to the insufficiency of moorings, quays,

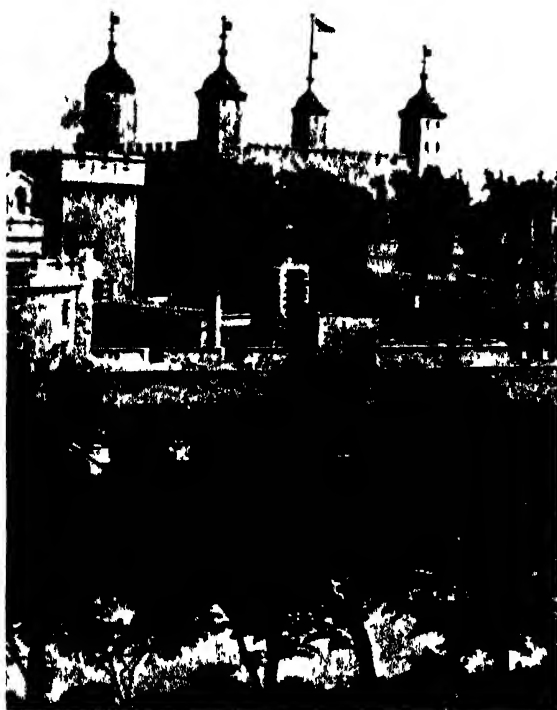




LONDON BUILDINGS

1. The Dome of St. Paul's. 2. The Sphinx on the Embankment. 3. A corner of Unilever House. 4. The Houses of Parliament and Westminster Abbey from the Embankment on the south side of the river. 5. Thames House. 6. Daily Express Building.
7. The Port of London Authority's Head Offices. 8. Tower Bridge from the Pool of London

Photos: F. Read; W. Ross; British Railways, The Times



THE TOWER OF LONDON

The building in the background is the White Tower, restored from the original Norman fortress

Photo British Railways

and warehouses, there was continuous congestion in the river causing great delay, loss, and inconvenience to shipowners and merchants. Plundering and smuggling were rife, and the depredation of thieves reached incredible proportions. These unsatisfactory conditions led to a Parliamentary inquiry the outcome of which was the building of the West India Docks, in 1802, by a company of merchants. Other dock schemes followed and by the close of the nineteenth century most of the docks of the Port of London were in existence. Keen and ruinous competition between the various dock companies and insufficient resources led to the Government appointing a Royal Commission, the outcome of which was the establishment of the Port of London Authority in 1909.

The Port of London includes the whole of the tidal Thames from Teddington to the sea, a distance of approximately seventy miles, and the Authority owns and administers five great dock systems covering an area of 4247 acres with a water area of 722 acres providing forty-five miles of quayage. In addition to these dock quays are the many miles of wharves along the banks of the Thames.

During the peak years just before the last war, the Port of London dealt with over 62,000,000 net register tons of shipping (57,000,000 tons for 1951) and 44,000,000 tons of goods in the course of a year and the value of the overseas trade is more than one-third of that for the whole of the United Kingdom.

The Markets. Before the second World War the commodity markets of London were internationally famous. They covered practically every type of goods and competition was very keen, both buyers and sellers being expert dealers.

Among typical examples may be mentioned the Baltic Exchange (grain, timber and the chartering of ships); the Corn Exchange in Mark Lane (market for grain for consumers and millers); Central Meat Markets, Smithfield (meat, eggs and dairy produce); Billingsgate Market (fish); Leadenhall Market (poultry); Covent Garden, Spitalfields, and the London Fruit Exchange (fruit and vegetables); Stratford (potatoes). The Coal



A LONDON STREET SCENE

The press of traffic and pedestrians in Regent Street

Photo The Times

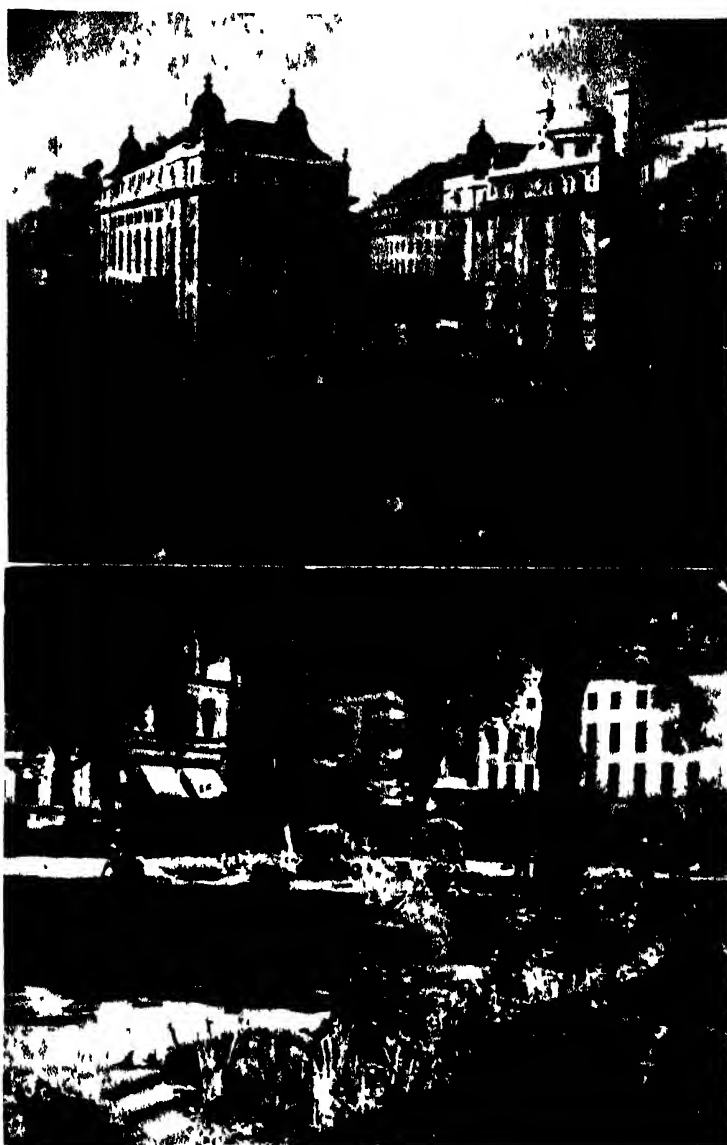
Exchange, the Metal Exchange, the Rubber Exchange, the Iron and Steel Exchange, and the Wool Exchange provide other examples of a similar nature. More wool, for instance, was brought into the Port of London than to any other port in the World. Very large quantities were received from Australia, and it was through the agency of the London Wool Sales that the Australian wool trade was built up. On being landed the bales of wool were stored in warehouses at the London Docks pending the sales held six times a year at the Wool Exchange in Coleman Street.

Curiously enough, too, London had become the carpet market of the World. Before the 1914-18 War Constantinople (Istanbul) had occupied this position, but the unsettled state in the Near East led the carpet merchants to leave that city for London. We thus had the spectacle of merchants from Iran, Afghanistan, Bulgaria, India and other carpet manufacturing countries meeting daily in the Cutler Street Warehouses of the Port of London Authority to transact their business, most of the carpets being of the more expensive variety and being re-exported to all parts of the world.

In the same way London dominated the world's market for ivory with the exception of Congo ivory, the latter being sold at Anvers. The tusks arriving from African ports would be stored at the London Dock for inspection prior to being sold by public auction at quarterly sales held at the London Commercial Sale Rooms.

Sugar, tea, spices, cocoa, wines, hemp and sisal, oils and oilseed, shellac, copra, and other commodities too numerous to mention all had their own special market in London.

During the second World War, as was only to be expected, free operations on London's produce markets came virtually to a standstill. Bulk buying on behalf of the Government



LONDON CONTRASTS

Above Piccadilly Circus, with the statue of Eros in the centre. Below Hanover Square, a typical Georgian square of the West End

Photos The Times

became the order of the day. In no other way could the intricate system of quotas and priorities, rationing, strict exchange control, and so on have been maintained. World shortages of foodstuffs and raw materials since then have militated against anything like a return to complete freedom in marketing, but many of the war-time controls have now been eased or abolished. By 1953, for example, private dealing even in such important strategic raw materials as lead, zinc, and copper had been resumed on the London Metal Exchange,

the first coffee auctions to be held in London for eleven years had taken place, and British sugar refiners had been allowed, for the first time since 1939, to buy raw sugar supplies for their export trade.

Finance. Behind all this vast trade is the financial organization of London, which is world supreme. The Bank of England, which was nationalized in 1946, is the sole note-issuing bank in England and Wales. It manages the National Debt on behalf of the Government, and is also the bankers' bank and consequently holds the cash reserve of the country. Moreover the Bank of England fixes the bank rate, on which money market interest rates depend. London is also the headquarters of five great Joint Stock Banks which clear their cheques through the Bankers' Clearing House. The banks finance London's trade by accepting dock warrants as security and by discounting Bills of Exchange. Nowhere else in the world can negotiable instruments be hypothecated as favourably as in London. Stocks and shares are bought and sold in the Stock Exchange,

which has a membership of 4000, consisting of jobbers and brokers, the jobbers fixing the prices and the brokers acting for the purchasers or sellers. No reference to London's money matters would be complete without mentioning the Royal Mint, where silver, bronze, and other coins are struck for use not only in the United Kingdom and in other countries of the British Commonwealth but in a number of foreign countries too.

Lloyd's, a famous London institution, is an association of underwriters who have some 1800 agents in all parts of the world to report the movements of ships and to collect and disseminate commercial and maritime intelligence. In addition to marine insurance, Lloyd's underwriters undertake all kinds of risks many of which are outside the province of the ordinary insurance companies. Lloyd's Register is an independent organization for the surveying and classification of shipping. Other shipping business conducted in London is the negotiation of time charters for vessels and the fixing of freight rates.



A ROYAL GARDEN PARTY IN THE GROUNDS OF BUCKINGHAM PALACE

Photo: *The Times*



OBSERVING THE QUEEN'S BIRTHDAY
Trooping the Colour on the Horse Guards Parade
Photo The Times

Transport. The conduct of London's trade necessitates a vast and intricate system of transport. Despite the fact that London is fifty miles from the sea the pre-eminence of its port assures frequent and regular steamer services to all parts of the world, while coastal services connect London with most of the other ports of the United Kingdom. While the canal system of the country has been generally neglected for many years, there is one notable exception connecting London with the Midland towns. This route is becoming increasingly busy, the industrialization of the south-east of England being a contributory factor. The Thames provides for the transport of goods within the Port of London by a fleet of 8000 lighters in normal times, though the number has decreased since the war.

Radiating from London are the great main railway systems of the country with extensive sidings for the interchange of wagons and private sidings connected with industrial undertakings. Apart from the suburban passenger services provided by the main line railways the centre of London is served by a network of underground and electric railways operated by

the London Transport Executive. This body is responsible also for operating buses and trolley-buses within the Greater London area and for wider-flung country services of buses and express coach services from country towns twenty miles and more distant from London. The development of civil aviation after the second World War led to the building of a huge airport at Heathrow. A focal point of world airways, routes radiate to the farthest corners of the globe, bringing the remotest markets within a few days of London's busy trade.

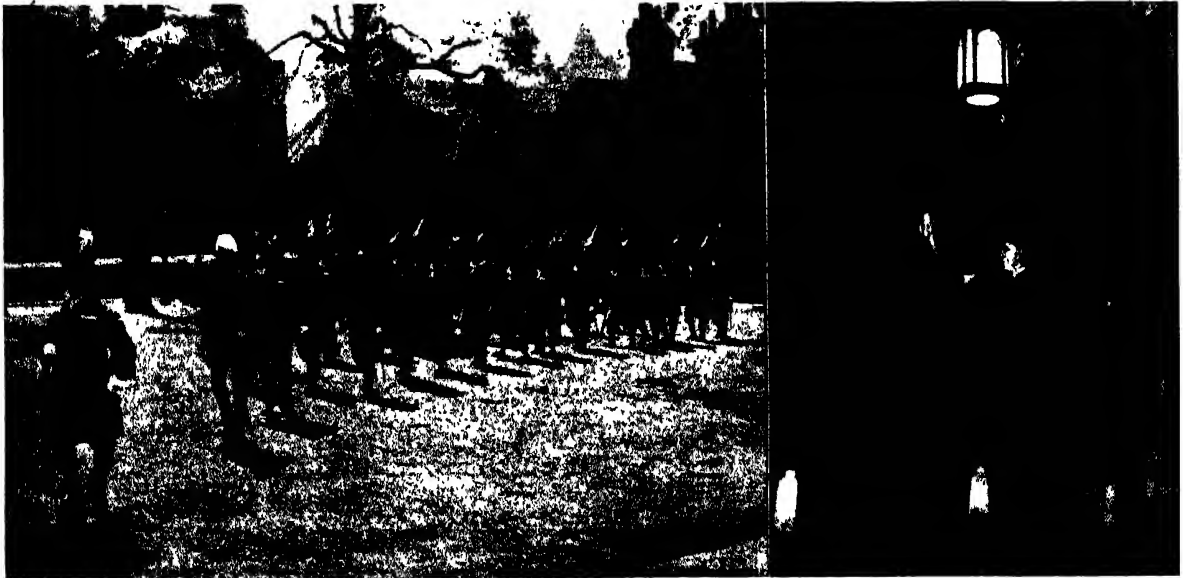
Government. London has been the seat of Government since the Norman Conquest and is the capital of the loosely-woven Commonwealth of British Nations. The Queen's Court is held at St. James's Palace and in the vicinity are the Embassies of all nations. Attached to these Embassies are Military, Naval and Air Attachés, while commercial problems are dealt with at the various Consulates. British Dominions and Colonies have Commissioners resident in London for political purposes, while Trade Commissioners foster business between the Dominions and the United Kingdom.

Apart from the administrative offices of the various Government Ministers, many professional, commercial and industrial organizations of national importance have their headquarters in London.

London, itself, is a rather vague description applied to over twenty administrative areas in the centre of which lies the original "square mile" of the City. The City is governed by the Lord Mayor, Aldermen and Common Councillors of the Corporation and is the pattern on which all local government in the country

of its buildings, which are representative of every period of architecture. Most of the main streets in the West End have been rebuilt during the last fifty years. The modern Regent Street has not a single old frontage; the greater part of Oxford Street has been reconstructed. Kingsway is an entirely new street, created out of slums at the beginning of the present century. Even so, the core of Old London remains behind the façade of modern architecture.

Of London before the Romans, if there was any prehistoric settlement, no trace remains,



LONDON CEREMONIES

Left: Beating the Tower Bounds, a ceremony which dates from Saxon days Right: The ancient custom of blowing the horn in the Middle Temple announcing that dinner is served in Hall

Photos: The Times; Photopress

has been modelled. For centuries the City of London has maintained its rights and privileges which have safeguarded the interests of the citizens and *inter alia* has had the right of voicing its choice of a successor to the Throne. Surrounding the City is the County of London, administered by the London County Council and covering an area of nearly 120 square miles, whilst extending beyond the county boundary is the Metropolitan Police area which is known as Greater London and has a population of 8,346,137. Although the boundary is irregular, most of Greater London is contained within a radius of 15 miles of Charing Cross.

Architecture. It has been said that the history of London is the history of the British Empire in miniature. In the same way the history of London can be read from the pageant

but Roman London, which was the largest town of Roman Britain, has survived in many places twenty or more feet below street-level. Several parts of the Roman wall are intact, notably at Tower Hill where the Roman wall forms part of the structure of a bonded warehouse. The Roman Forum was discovered during excavation for building purposes in Leadenhall Street and large quantities of Roman pottery, coins, and weapons have been removed from that and other sites into the safe keeping of the British Museum.

Though it is known that London continued to be inhabited during Saxon times, no trace of the history of the period can be seen, but from that time onward no period is unrepresented in spite of the fact that the Great Fire and bombs demolished many buildings which otherwise would have been standing to-day.

The White Tower of the Tower of London is the Keep of the Norman fortress which was built by William the Conqueror on the site of the Roman defences. Though additions have been made to the structure in almost every period, the Norman arches and passages remain virtually intact. There is Norman work, too, in the Church of St. Bartholomew the Great, Smithfield, and in the crypt of the bomb-damaged Church of St. Mary-le-Bow.

The crypt of St. John's Church, Clerkenwell, was built by the Knights of St. John of Jerusalem in the latter part of the twelfth century when Norman architecture was giving place to Gothic. The partially destroyed Temple Church in Fleet Street represented the earliest style of the latter period, whilst Southwark Cathedral was built in the early part of the thirteenth century. The chapel of Lambeth Palace, too, is a link with the same period.

Westminster Abbey is almost certainly on the site of a Saxon chapel, and tradition relates that the earliest sacred building there was a Roman temple. The greater part of the fabric is in the style of the later part of the thirteenth century, whilst the nave and cloisters belong to the latest style of Gothic architecture (fourteenth and fifteenth centuries). Other churches which were built in the fourteenth and fifteenth centuries and survive, either whole or in part, are those of St. Alphage, St. Etheldreda, Holborn, and St. Ethelberga in Bishopsgate Street. Westminster Hall and the crypt of Guildhall are two of the earliest secular buildings extant.

London life in Tudor times is recalled by Henry VII's chapel in Westminster Abbey, by St. John's Gate in Clerkenwell, once the entrance gate to the priory of the Knights of St. John of Jerusalem; the gateway and the hall of Lincoln's Inn and the gateway of St. James's Palace. The Halls of the Inns of Court date from the Renaissance; whilst the gardens of Gray's Inn were actually laid out by Lord Bacon. The Charter House, too, was built between 1570 and 1620. The chapel of Lincoln's Inn shows the influence of Inigo Jones as does the banqueting-hall of Whitehall.

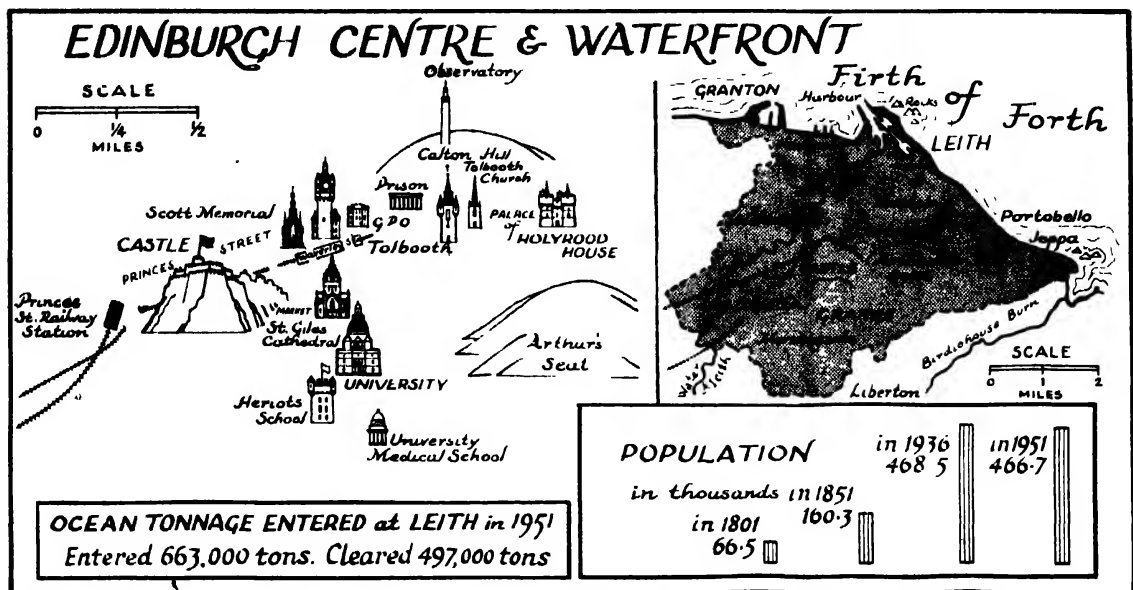
Following the Great Fire of London the central parts of London were rebuilt entirely, most of the larger structures being the work of Sir Christopher Wren. The Halls of the City Companies, in particular the Stationers' Hall, St. Paul's Cathedral and a number of smaller churches, the Monument and Temple Bar,

now at the entrance to Theobald's Park near Cheshunt, are a few of his masterpieces.

The Georgian houses of the quiet squares of the West End are typical of the eighteenth century. Grosvenor Square, Soho Square, and St. James Square are three notable examples. To the same period belong Marlborough House and Burlington House in Piccadilly. Many of London's public buildings were erected between 1800 and 1860. The Albert Hall, the National Gallery, the British Museum, the Houses of Parliament and University College were all designed at that time as well as Trafalgar Square, the arch on Constitution Hill, and the theatres of Covent Garden and Drury Lane. The first Buckingham Palace was built at the beginning of the eighteenth century, but reconstructed between 1820 and 1825.

The most recent architecture shows varying influences. Many of the office buildings, such as Africa House, Bush House, and Shell-Mex House, seem modelled on the American plan. An individual style is evidenced in the tasteful lines of the Battersea Power Station, but the West End is still a mixture of classical columns and a belated Gothic revival further modified by the demand for the greatest amount of light, a factor which determines the characteristic appearance of most modern buildings.

The Docks. The Port of London includes the whole of the Thames Estuary to the Nore. It receives about one-third of the total imports of Britain, and sends out about a quarter of the exports. Control is in the hands of the Port of London Authority. This body owns and controls the following dock systems, each dock providing the facilities necessary for handling the many varied cargoes, and also suitable warehouse and storage accommodation: *St. Katharine Docks*, which deal with marine shells, tea, wool, dried fruit, canned goods; *London Docks*, dealing with ivory, spices, rubber, wine, sugar, tallow, gums, coffee, wool; *West India Docks*, in which rum, sugar, hardwoods, fruit (especially bananas) are handled; *Millwall Docks*, handling grain in bulk; *East India Docks*, which deal with essential oils, wines, green and dried fruit, plywood; *Royal Victoria and Albert Docks*, dealing with frozen meat, tobacco, wool, fruit and dairy produce, grain; *King George V Dock*, in which fruit, tea, wool, frozen meat, sugar, and general cargoes are handled; *Tilbury Docks*, which have Australian and Eastern traffic; *Surrey Commercial Docks*, in which the main cargoes are timber, grain, dairy produce, and green fruit.



Edinburgh

EDINBURGH is the administrative, social, banking, and educational centre of Scotland. In population it is only eighth of the towns of Great Britain, numbering 466,770 at the census of 1951 (compared with 427,302 in 1931) but in area it ranks third and includes the Port of Leith, the residential area of Portobello, and the suburb of Colinton.

In commerce and industry Edinburgh has always fallen behind Glasgow, though by its easy access to the sea and proximity to the Lothian coal-fields, it has all the necessary requirements for future development. At present its manufactures are confined to food-stuffs, rubber goods, and articles for local consumption. Since the earliest days of printing, however, it has been the chief centre of printing and publishing in Scotland.

Princes Street which runs through the centre of the city from east to west is the most famous of Scottish streets and the chief shopping thoroughfare of the city. It is unique in that one side is flanked by public gardens dominated by the castle and the old town. Most of the buildings along the other side of the street are modern and date from the rebuilding of the city at the beginning of the nineteenth century. Within the space of a square mile, however, are grouped many of Scotland's most historic

monuments and finest examples of medieval architecture.

The Scott monument in the Princes Street Gardens recalls the city's literary associations. The structure is in the Gothic style copied from Melrose Abbey. A few yards farther down the street the National Gallery contains a representative collection of paintings with special stress on the work of Scottish artists. The cathedral of St. Mary (Scottish Episcopal Church) is one of the works of Sir Gilbert Scott and, like the Scott memorial, simulates the Gothic style. The University of Edinburgh, the most recent of Scottish universities, has several imposing blocks of buildings in the higher part of the town, and now includes a medical school, which has won a high reputation in the sphere of surgery, and an Institute of Geology which was opened in 1932.

The Cathedral of St. Giles is in admirable contrast with that of St. Mary. Erected in the twelfth century it is thought to be on the site of one of the earliest churches in Scotland and retains early Gothic architecture in the tower and in the nave and choir. Much of the fabric consists of additions made during rebuilding after a fire in 1385, though much restored. Nearby are Parliament House, the Law Courts, and the National Library of Scotland.

A large number of old houses remain in spite of the fact that the whole of the slum area has been cleared in recent years and the main thoroughfares widened. Among them is the house where John Knox lived, and Murray House—a seventeenth century building where Cromwell at one time resided. Huntly House was built in the preceding century and now houses the city museum, which contains many links with the lives of Mary, Queen of Scots, Burns and Scott.

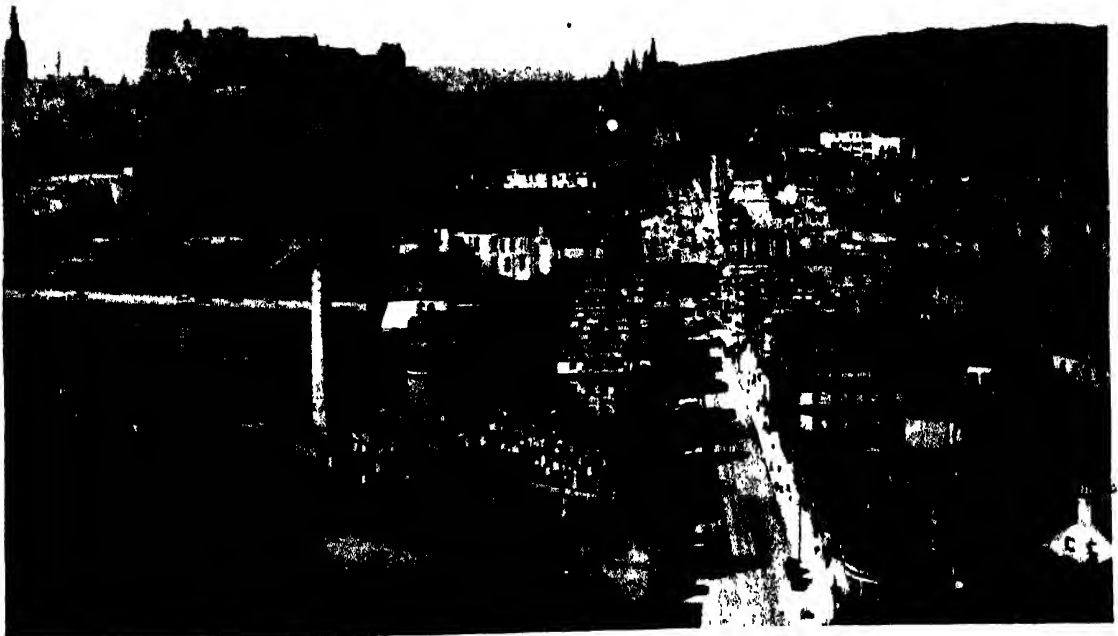
The two buildings which are historically the most important and architecturally the most magnificent are the Palace of Holyrood House and the Castle which includes within its precincts the Scottish National War Memorial. The Palace of Holyrood House has as its chapel the abbey church founded by David I. The palace itself was begun in the sixteenth century, but has many times been restored and enlarged. It was the royal residence of James IV and James V and also James VI until he became King of England. To-day it is the official residence of the king in Scotland.

The castle epitomizes the whole history of the city. Around the castle rock the earliest

events connected with Edinburgh were enacted, for it is a naturally defensible position commanding the plain of the Firth. It is probable that there were prehistoric fortifications on the site, but all trace of these has been lost. Like the castle at Stirling, that of Edinburgh is still a fortified position and the quarters of a permanent garrison.

The Scottish National War Memorial is of outstanding importance, opened in 1927 it takes the form of a chapel or shrine, containing the banners of all the Scottish regiments which fought in the World Wars and the roll of honour of each inscribed in massive books. The stained-glass, carving and architecture are all of a high order, the first-named including many examples of symbolical work depicting various branches of the services.

The immediate vicinity of Edinburgh is a district of great beauty; the Braid Hills lead to the lower slopes of the Pentlands from which there are magnificent views across the city to the Firth of Forth, which is spanned by the Forth railway bridge, one of the most outstanding engineering feats of modern years.



EDINBURGH

A view of Princes Street with the Castle Rock in the background, taken from Calton Hill

Photo The Times

THE COMMERCIAL AND INDUSTRIAL CENTRES OF ENGLAND



MANCHESTER

Piccadilly, the Central Square of the cotton town

Photo: Fox

IT is not always easy to explain why a certain town stands where it does, the difficulty in most cases being not so much the apparent lack of reasons as in the large number of likely ones. Advantages in transportation, such as favourable situation on a trade route; natural wealth, particularly of coal; personal factors, the skill and knowledge of men who settled in particular districts—these are but a few of the influences that determine the sites of industrial towns and ports. There is generally a combination of causes of origin and growth.

Ports. Most of the chief ports are upon or close to the estuaries of navigable rivers. The

story of their development is part of the social and economic history of this country. All owe much of their growth to industrial development, the ease of obtaining raw materials and the existence of assured markets giving them the necessary advantages. Among the leading ports of the world are London and Liverpool, while other leading ports in Great Britain are Hull, Manchester, Southampton, Glasgow, Newcastle, Bristol, and Cardiff.

The earlier development of English ports was mainly in the south and east, the coasts nearest to the Hanse towns, Holland, and Flanders. With the growth of trading, other ports began

to compete, and such ports as Bristol, Hull, and London rose to first importance.

In more modern times the wonderful advance in engineering has had great influence on the growth of ports, navigation of the great rivers, as well as land transport, being improved, large dock systems built, and the ship canal constructed to make Manchester a seaport. In passing it is interesting to note that the heavy shipping charges at Liverpool led to the advent of the Manchester Ship Canal.

Manchester. Standing where the Pennines can be crossed along five valleys, at a point where the hard rock of the Irwell banks made a good foundation for a Roman fort, between the Mersey marshes and the Pennine Moors, Manchester was bound to become a centre of trade when large populations centred in the valleys. It is the largest centre of the textile trade in the world, most of its raw material being brought direct by the canal. Around the cotton industry various others have grown up, and Manchester has become a great centre of engineering, manufacturing engines of all kinds, electrical apparatus, and mill machinery. The chemical industry is also of much importance. Since the construction of the Ship Canal Manchester has become one of the chief ports of the kingdom, although it is thirty-five miles from the coast. The canal was opened in 1894. Every berth at the docks has road or rail connections, and so the handling of goods is reduced to a minimum. Chief of the imports are timber, grain, cotton, oil, wool, and cattle,



LIVERPOOL

Above: Lime Street Station. Below: St. George's Square, showing the War Memorial and the Prince Albert Statue
Photos: British Railways, Topical

while the exports are mainly manufactured textile goods, heavy machinery and locomotives, coal, and chemicals. Population (1951) 703,175.

Liverpool. It was not until the eighteenth century that the business of Liverpool began to



NEWCASTLE

A panorama of the factories by the Tyne
Photo: Central



HULL

The City Square and Victoria Memorial

Photo City of Hull Development Committee

be at all important. This city and seaport of Lancashire now deals with about a quarter of the overseas trade of the United Kingdom. Its position at the seaward end of the River Mersey gives it great advantages of transport. It is backed by highly industrialized regions connected by excellent means of transport. On both sides of the river are the extensive docks, those on the Birkenhead side being devoted partly to shipbuilding and repairing. The first dock was opened in 1715, and it proved sufficient for the requirements of the port for nearly forty years. Docks and basins now number ninety, with a water area of 660 acres. In 1934 a tunnel for road traffic was opened between Liverpool and Birkenhead. The industries of Liverpool include flour milling, shipbuilding, engineering, oil and seed crushing, and sugar refining. There are also important tobacco factories. Its chief exports consist mainly of manufactured textiles, iron and steel goods and machinery, together with woollens from West Riding. Population (1951) 789,532.

Newcastle-upon-Tyne. On the north bank

of the Tyne, about eight miles from the mouth, Newcastle is one of the oldest ports of the kingdom, its Trinity House being incorporated about 1492. It has the advantage of being the centre of the Northumberland and Durham coal-field. It is interesting to note that the production of locomotives first became an established industry in Newcastle. To-day shipbuilding is important. Connecting with Gateshead across the Tyne are the Tyne Bridge (1928), King Edward VII Bridge (1906), High Level Bridge (1849), and Redheugh Suspension Bridge. Population (1951) 291,723.

Hull. In the south-east corner of Yorkshire is Kingston-upon-Hull (more familiar as Hull), near the mouth of the Humber. It includes in its hinterland the industrial regions of Yorkshire and the agricultural regions of the Vale of York and the eastern Midlands. Surrounded by agricultural districts, the town has been a trading centre from early times. The first dock was constructed in 1774-8. Coal, manufactured goods, machinery, oil, paints and colours now make up most of the exports, while the

imports include timber, grain, fruits and vegetables. It is also one of the main fishing ports of Britain. Of the large timber imports handled at the docks, most are dispatched to the manufacturing district of the West Riding of Yorkshire. A great variety of goods is manufactured in Hull, among the newer industries being rice milling, cocoa-butter making, and the manufacture of electrical goods. Population (1951) 299,068.

Bristol. Owing its origin to trade with the Scandinavian voyagers who settled in Ireland, Bristol has been a leading port for a thousand years. It was very badly damaged during the 'blitz' of the last war. Its most important industrial undertakings are tobacco and cocoa and chocolate works. Other manufactures include boots and shoes, leather, paper, paints, soap, and many others, the important coal-fields on the outskirts of the city proving exceedingly valuable for its industrial life. Population (1951) 442,281.

Plymouth. This Devonshire seaport, with

its neighbour Devonport, is one of the chief naval centres of England. It is a port of call of the trans-Atlantic liners, and has a considerable import and export trade. Mention should be made of the town's importance in history – the Black Prince used it in the fourteenth century, and in the sixteenth century it was a port for the English fleet operating against the Spanish Armada. Population (1951) 208,985.

Portsmouth. The main industry of Portsmouth centres almost inevitably upon the naval dockyard, and the other industries are chiefly those providing material for the docks and fitting yards. The harbour is surrounded by forts, and guarding the entrance is a round tower on a site which was fortified as early as the Roman period. Population (1951) 233,464.

Southampton. Southampton has a well-sheltered position, and a double tide daily. Docks have been built which will accommodate ocean liners, and this fact, together with the establishment of fast train services to London,



PLYMOUTH

The beach, the Hoe, and the lighthouse

Photo: Topical

has enabled the town to develop a great passenger traffic. Following this passenger traffic, a great import and export trade has been built up, and the port now ranks fifth in the United Kingdom. Miscellaneous exports include textiles. Population (1951) 178,326.

Inland Towns. The earliest towns came into existence at places possessing obvious agricultural, military, and trading advantages, but the growth of towns to positions of great commercial or industrial importance is the result of other factors. For instance, ease of

Some of the most important inland industrial towns, beginning with Bradford as our northerly point and coming southwards to the London area, are mentioned below.

Bradford. Bradford began its industrial history as a market town to which Yorkshire farmers brought wool, and the wool was made, by hand, into a variety of products. With the introduction of worsted and the coming of machinery and factories, the town developed rapidly. To-day Bradford is the world's chief dealer in wool.



LEEDS

Left The Town Hall Right Briggate one of the main shopping centres
Photos The Yorkshire Post P. Hard

obtaining raw materials for manufacture, excellent water power in the early stages and later steam power, a plentiful water supply, favourable climatic factors, good transport facilities, and the inherited skill of the workers account for the prominence of the Lancashire cotton towns.

The Industrial Revolution made great changes in the towns. In the seventeenth century the large towns of England were to be found in the agricultural and pastoral area south-east of a line connecting the Wash with Bristol. By 1750 a movement northward had set in; and the great inventions and discoveries of that time gradually established industrial towns on the coal- and iron-fields. The centres of industry and commerce shift as new discoveries are made and transport facilities are improved, so that now the bulk of the population is to be found in the large towns north and west of the Wash-Bristol line.

Recently the artificial silk industry has been developed, while cotton also plays an important part in the town's manufactures. Worsted coatings, linings, and wearing apparel of every description are Bradford's chief products, and there are also important engineering industries. Population (1951) 292,394.

Leeds. The staple trade is the manufacture of cloth and clothing, and Leeds grew rapidly with the coming of the steam engine and the power loom. It is well served by railway and canal transport facilities. To the west of the city the Leeds and Liverpool Canal connects with the Mersey, and on the east is the Aire and Calder Navigation Canal. Its many industries besides cloth-making include engineering, the manufacture of leather goods, bricks, and aircraft. Leeds is one of the chief centres of the leather industry. Population (1951) 504,954.

Salford. Adjoining Manchester, Salford has the chief dock of that city within its

municipal boundaries. Between Manchester and Salford is the River Irwell, spanned by twelve bridges. The industries of Salford include cotton spinning and weaving; bleaching, dyeing and calico printing; the manufacture of chemicals, paper, rubber, glass, etc. The imports and exports are similar to those of Manchester. Population (1951) 178,036.

Sheffield. To the south of the wool-manufacturing region of Yorkshire lies that in which iron and steel goods are produced. The city of Sheffield is its centre, though its advantages are shared to some extent by a number of other towns. It is known throughout the world for its iron and steel products. The iron industry settled in this part of the country in early times because iron ore, wood for fuel, and

water power were within easy reach of one another. For the special kinds of steel in which Sheffield excels, however, haematite pig-iron has now to be imported from Lancashire and Cumberland, while for the finest description of steel goods, Swedish iron is used. Sheffield manufactures engineering plant and machinery, armour plate and ordnance, cutlery, tools, and a great variety of other articles—jams, oils, ropes, etc. Population (1951) 512,834.

Stoke-on-Trent. The pottery industry, which is carried on in and around the "five towns" (now united in the county borough of Stoke-on-Trent), owed its origin to the presence of large deposits of suitable clay in the neighbourhood. The finer clays are now exhausted, and it is necessary to import kaolin from



BIRMINGHAM

1. The Municipal Bank. 2. The Town Hall. 3. New Street. 4. The Museum and Art Gallery

Photos: City of Birmingham Information Bureau

Devonshire, as well as other raw materials from various sources, for the manufacture of porcelain and china. Local clays are still used for the coarser kinds of earthenware. Iron-smelting and engineering are also other important industries. Population (1951) 275,095.

Nottingham. One of the chief industrial towns of the Midlands, on the River Trent, Nottingham is in close proximity to coal and ironstone. Historically, the most important industry is lace making, with which is coupled the manufacture of hosiery; but the lace industry now takes a less important place than formerly. Of first importance to-day are such manufactures as those of cycles, drugs, hosiery, tobacco and cigarettes. Bleaching and dyeing are also important, as is engineering; while the many other industries include the manufacture of bone fertilizers, clothing, leather goods, and furniture. Population (1951) 306,008.

Leicester. The county borough and county town of Leicestershire is one of the main centres for boot and shoe manufacturing, other industries being hosiery and machine knitting, and also the manufacture of machinery for use in the staple industries. Leicester is also the market for a large agricultural area. Population (1951) 285,061.

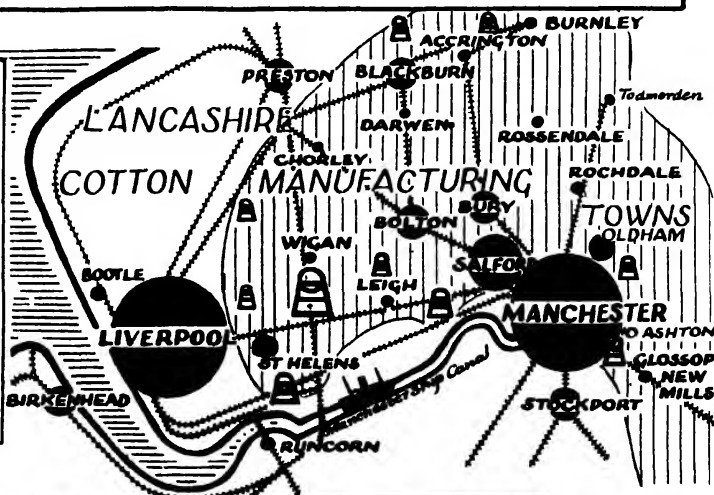
Birmingham. This, the second city of England, is the industrial capital of the Midlands. It is best known as the British hardware centre. Every type of machinery and accessory is made. Within recent years new industries have grown up, connected with the manufacture of motor-cars, cycles, electrical apparatus, etc. In and around Birmingham, engineering (partly constructional and partly connected with the motor and cycle industries) is now more important than the manufacture of hardware. Population (1951) 1,112,340.

LIVERPOOL & MANCHESTER DISTRICT

POPULATION OF MAJOR TOWNS 1951

LIVERPOOL	789,532
MANCHESTER	703,175
SALFORD	178,036
BOLTON	167,162
BIRKENHEAD	142,392
STOCKPORT	141,660
OLDHAM	121,212
PRESTON	119,243
BLACKBURN	111,217
ST. HELENS	110,276

Main Railway Lines



TONNAGE of VESSELS ENGAGED in FOREIGN TRADE 1951 (in thousands of tons)

LIVERPOOL		MANCHESTER
12,478	entered	3,717
12,065	cleared	3,273

Coalfield & Principal Coalmining Districts



HISTORIC TOWNS OF ENGLAND



TWO CATHEDRAL CITIES

Left: The fifteenth-century West Gate, which still spans the main road, at Canterbury. Right: St. William's College, with overhanging top storey and carved timber work at York.

IT has been shown in a previous chapter that the modern commercial and industrial centres owe their position and growth to a complex variety of causes, which cannot always with certainty be determined, but usually include facility of transport and proximity to the most important sources of fuel. In the case of the medieval walled towns and cathedral cities the case is very different. In almost every instance it is possible to determine with absolute precision the causes or combination of causes which determined their origin and later growth. In most, the causes resolve themselves into economic or strategic considerations dependent on the relation of a given site to the main lines of communication, whether road or river, and to the twin centres of medieval life—the castle of the baron and the abbey.

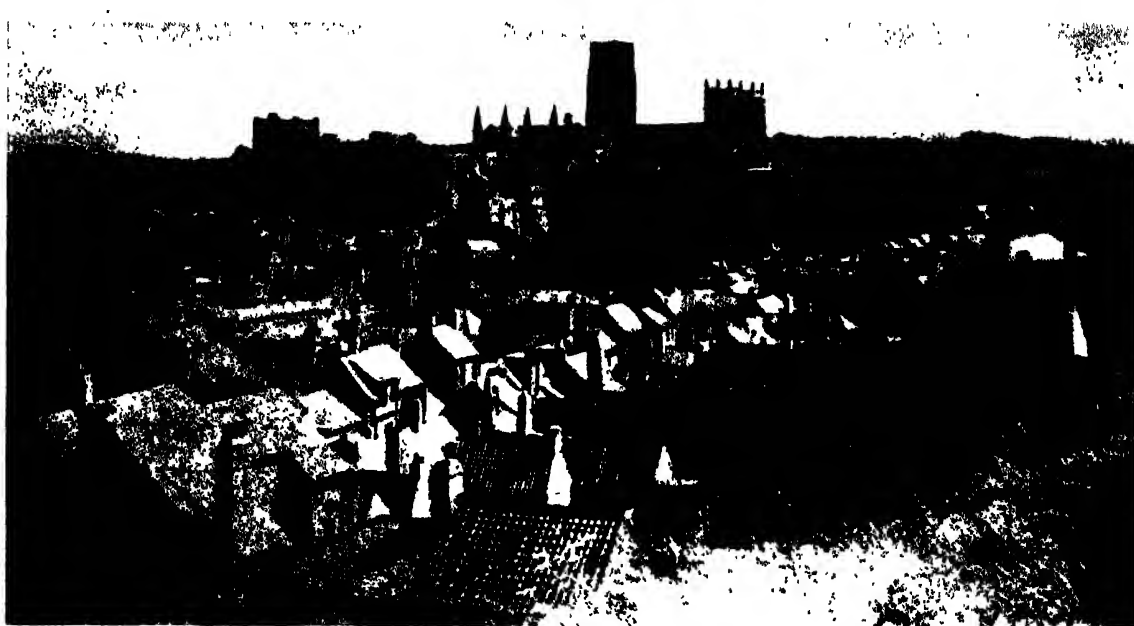
Hill-top Villages. The earliest scenes of town life in Britain were the hill-top villages, defended by earthen rampart and ditch, the prehistoric equivalent of the medieval town wall. The first of these fortified villages are attributed to the third or fourth millennium B.C. and belong to an age of culture when stone was the only material for the manufacture of weapons and implements. The hill-top village persisted, with constant development, until the period immediately preceding the Roman

occupation, when elaborate towns, such as that surrounded by the earthworks of Maiden Castle in Dorset, were constructed.

The Work of the Romans. We owe the foundation of many flourishing cities to the Romans. In many cases they built walled towns on the sites of previous occupation, partly, no doubt, because the sites chosen were otherwise suitable, and partly to prevent the resident population from being transferred to another settlement. It is to the Romans, also, that Britain owes its first net-work of commercial roadways.

The two facts are closely linked. The roads were built in a straight line (or nearly so) from one large centre to another, or from the most convenient ford over one river to the most convenient ford over the next which lay on its course. The position of the roads determined the site of the new towns. A large number of them were founded to guard the fords over the rivers; a smaller number were built at the intersection of important highways.

Thus in Kent there are three towns which were important Roman cities—Dover, Canterbury, and Rochester. Of these Dover was the natural port of entry, and Canterbury and Rochester the places where the Stour and the Medway respectively could be most easily



THE CITY OF DURHAM
Photo *The Times*

forded by the road which linked Dover with the ford over the Thames at London. Chichester, Leicester, Lincoln, York, and Winchester are a few of the other towns which owed their origin to the system of Roman roads and have never lost their significance.

The fourth century A.D. marked the withdrawal of the Roman legionaries to defend their Empire nearer home. It marked, also, a pause in the development of the English town.

The Saxon tribes which overran the country razed many of the Roman towns to the ground, only London apparently surviving, as a commercial centre of some importance, throughout the period. A few, such as Silchester in Berkshire which was situated at the junction of three Roman roads, never rose again from the ashes, but the vast majority were rebuilt in the later days of the Saxon period and regained much of their former prosperity under the Norman and later kings.

Generally the castle of the Norman baron was built within the precincts of these old cities, but occasionally a new site was chosen; this often developed into the centre of a market-town. A similar cause resulted in some abbeys, such as that of St. Albans, attracting an increasing number of citizens and thus causing the rise of a market and business centre, for the abbot became lord of the manor in just the same way as had the baron.

Such is the historic background of Britain's

cities. Many of the walled towns of the Middle Ages, such as Southampton, have developed into modern industrial and commercial centres, others, such as York and Chester, have retained their old buildings and their medieval backwaters, whilst keeping pace with the march of progress and attracting a steadily increasing population and a moderate industrial growth. Others again, such as Winchester and Chichester, have maintained their position as centres of culture and religion, apparently oblivious of the changes characteristic of the twentieth century. Almost all retain sufficient links with the past to enable reconstruction to be made of the cities' early plan and of the course of their development.

Salisbury. Salisbury is the most important exception to this sequence of events among the cathedral cities of the old foundation. The Norman castle, the cathedral and the medieval city were situated on a hill half a mile to the north on the fortified site known to-day as Old Sarum. Shortage of water and too great exposure to the elements resulted in a proposal to move the site of the town from the hill-top into the valley below. Thus in the thirteenth century the cathedral of New Sarum (later known as Salisbury) was built on its present site and within fifty years the whole population of the old town had followed, so that Old Sarum, which had been inhabited since pre-Roman days, was virtually deserted. Population (1951) 32,910.

Canterbury. Canterbury is the most illustrative example in southern England. As has been shown, the site is known to be that at which the Roman Watling Street forded the river. After the Roman occupation it became the capital of the independent Kingdom of Kent. As such it was the royal city of **Ethelbert**, the first Christian king, at whose invitation St. Augustine came from the Continent to found the episcopal See at Canterbury. So the church was built which was later destroyed in a raid made by Norsemen in 1016, but it was rebuilt in Norman times and developed finally into the present cathedral. After the occupation of Britain by the Normans a castle was built and numerous monasteries established, so that the city became a second Roma on a smaller scale.

Two principal causes contributed to its medieval prosperity. One, paradoxically enough, was the martyrdom of St. Thomas, for many thousands of pilgrims came yearly to his shrine, and brought trade in their wake. The other was the immigration of the Flemish weavers who introduced their art into Canterbury, as to so many other towns of eastern England, among which Norwich was a conspicuous example, making them important centres of the weaving industry.

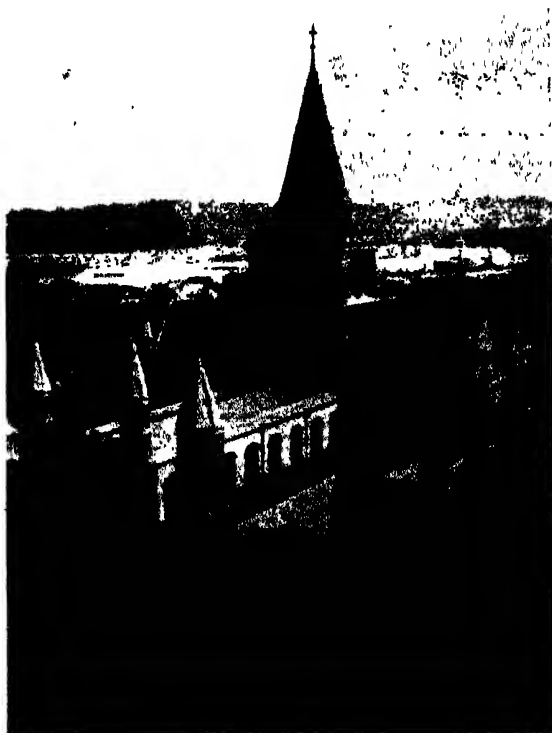
Canterbury retains links with each period in its story. The Dane John—a large oval mound just inside the city walls—links it with pre-historic times; for this was one of the three earthworks (the other two having been levelled) which belonged to the pre-Roman settlement. The line of the Roman walls is perpetuated in the medieval walls which are intact for about a third of the circuit of the town. The Church of St. Martin is the principal association with Saxon days. The inner fortress of the Norman castle is built on the same lines as the Keep of Rochester, but has long been used as a coal dump.

There are many signs of medieval prosperity. The cathedral is the most significant, its Norman work blending perfectly with the Gothic style of the greater part of the fabric and with the central tower which was added at the beginning of the sixteenth century. There are, too, fragments of the Grey Friars Monastery—the earliest Franciscan settlement in the country—the fourteenth century gateway of the Abbey of St. Augustine, the round Norman arches of the priory of Christchurch attached to the cathedral, and the Flemish weavers' houses which make an attractive group on the

banks of the Stour. The Eastbridge Hospital recalls the days when the devout made the annual pilgrimage to Canterbury. The West Gate is the only surviving one of the six which originally protected the entrances to the city. Population (1951) 27,778.

Rochester. Rochester's history is curiously similar to that of Canterbury, a similarity due largely to its position at the ford over the Medway, corresponding to Canterbury's strategic importance in relation to the Stour. Like Canterbury, it is built on the site of an early British settlement and a Roman town. Like Canterbury, it was an important city in the Saxon Kingdom of Kent. Like Canterbury, too, it was the seat of a powerful Norman baron. It was in fact Baron Odo, Constable of Rochester, who rebelled against Rufus and withstood a siege for several months in the castle overlooking the Medway. As though to complete the parallel, Rochester had its medieval shrine—that of William of Perth, who was murdered on his way to do homage at the shrine of St. Thomas, and visitors to whose tomb brought added prosperity.

There are traces of the Roman walls and



ROCHESTER

The Cathedral, with the Medway in the background, photographed from the roof of the Castle

Photo: Len Guir

more considerable fragments of the medieval defences which were built on the same site. The cathedral was founded by St. Augustine being, with London and Canterbury, one of the first to be founded in England. The castle was built by the same architect and master mason as the castles of Canterbury and London. The ruined fragments of the monastery near the cathedral and a number of medieval houses and coaching inns bring back scenes of Tudor and later times. Population (1951) 43,899.

York. If it is granted that Canterbury is the most interesting city in southern England, York takes pride of place in the north. In



YORK

In the foreground the city walls, in the background the Minster
Photo The Times

Roman times it had the distinction of being a *colonia*, or partially self-governed town, attached more closely to the government of Rome than the rest of Britain. It was the capital of the northern districts of Roman Britain and the garrison town of one of the legions. To-day it can still claim to be the second city of England; its Lord Mayor shares with the Lord Mayor of London the title of Right Honourable, whilst the Archbishop is second only in precedence to the Archbishop of Canterbury.

As at Canterbury we can trace in its still standing buildings the course of its history from earliest times. The multi-angular tower is the most important fragment of Roman fortification in England. As in so many places the medieval walls follow in part the line of the Roman walls. Several of the city gates are intact; the cathedral is a magnificent mixture

of the architectural styles of the thirteenth, fourteenth and fifteenth centuries. Although, unlike Canterbury, it was never the church of a monastery it is known as a minster. Its 111 stained-glass windows are the most numerous in any one church in all Christendom.

The chief link with Norman times is the crypt in which can be seen the well where King Edwin of Northumbria was baptized by the first Archbishop of York in the seventh century. The picturesque ruins of the Abbey of St. Mary are part of a Benedictine monastery founded by the second of the Norman kings. Later days are represented by half-timbered houses, ranging from the Merchants' Hall of the fourteenth century and the bomb-damaged Guildhall of the fifteenth century to the mansion house of the eighteenth century.

No part of the original Norman castle survives, but Clifford's Tower dates from the thirteenth century and the site retains its traditions as garrison and dispensary of justice in the modern barracks and Assize Courts, a conservatism in sites which can be noted in many of the old fortress palaces. Population (1951) 105,336.

Chester. The walls of Chester, nearly two miles in circumference, are almost as complete as those of York. Although they belong to the medieval city, here, too, we find that they follow closely the lines of the original Roman wall on three sides. On the fourth the Norman castle was built outside the Roman city, and the medieval walls were extended so as to include it within their ambit.

The only ancient part of the castle building is the Keep, known as Caesar's Tower, but even this has been restored, the later additions being of red sandstone similar to the composition of the city walls. As we have noticed elsewhere, the castle at Chester retains the full traditions of its original purposes—it is at once the barracks, the county gaol, and the Assize Court.

The cathedral, though not so magnificent as those of Canterbury or York, is a large and attractive building composed chiefly of the same red sandstone as appears in the walls and the castle. Unlike York Minster, Chester Cathedral owes its origin to the Benedictine abbey and did not attain the distinction of an episcopal See until the sixteenth century. The cloisters in the Perpendicular Style of Gothic architecture and the Chapter House in the first Pointed Style are perfectly intact, and more attractive examples of Gothic architecture than the interior of the cathedral, which is

partly Decorated and partly Perpendicular with some recent additions.

Most famous of Chester's links with medieval times are the timber-built houses of the Rows, the latter being roofed promenades from which the shops are approached by numerous flights of steps. A number of the houses date from the seventeenth century and few are later than the eighteenth. The market-cross stands where the four roads of the Roman city meet and is an apt reminder that Chester is still a flourishing commercial town and the market centre of a wide area of rich agricultural country, handling much of the produce of the pastures and ploughed fields of the Cheshire Plain. The town is also an important military centre, thus in one more way preserving a tradition which originated in Roman days. Population (1951) 48,229.

Carlisle. Carlisle is one of the historic cities which has adapted itself to the requirements of industry. The castle, dating from the reign of William II, is Carlisle's chief reminder of medieval wars, for this part of the country suffered extensively in the struggle between England and Scotland which was protracted into the later Middle Ages.

The cathedral is an ancient church which seems to have been founded at the beginning of the twelfth century as the church of an Augustinian priory, though the greater part of it was demolished by the Scots during the Great Civil War, and only parts of the Norman nave survive.

It is the county town of Cumberland and the only town of considerable size in the county. Its position at the junction of the west coast railway line with local lines of communication has made it a distributing centre for the whole county and for much of Westmorland. Railway workshops have been established and have drawn fresh labour into the town which in turn has resulted in other minor industries. Population (1951) 67,894.

Exeter. Exeter bears the same relation to the extreme south-west as does Carlisle to the north-west. It is the chief market-town and distributing centre of Devonshire and, though large population centres have arisen round Torbay, it remains the most populous town of the county. It has become a port (for the Exe is navigable by coastal steamers) and a manufacturing centre as well as a cathedral city and county town. Finds of Roman pottery and coins have been made in the immediate neighbourhood but there is little evidence to connect the site of Exeter with any considerable town until the later days of the Saxon régime, and more particularly until Norman times



CHESTER

1. The corner of Bridge Street looking towards the East Gate. 2. Half-timbered houses in the main shopping thoroughfare. 3. The East Gate

Photos: Chester Town Clerk; British Railways



CATHEDRALS OF THE WEST
 Left: Worcester. Right: Gloucester
 Photo: British Railways

when the castle was built—Rougemont Castle—of which rather insignificant fragments have been preserved. It is recorded, however, that prior to the building of this fortress, Exeter was attacked and sacked by the Danes, whilst there was another siege during the struggle between Stephen and Matilda.

As we have noted at Chester and elsewhere, the local stone from which the cathedral and castle were built adds greatly to their distinctive beauty, the Devon sandstone of the cathedral in particular showing to its best advantage the modest size of the building and the Decorated Style in which it is constructed.

Early local government is recalled by the Guildhall which is known to have been constructed before the end of the twelfth century and may well be the earliest municipal building in the whole country. The present Guildhall is a fine Elizabethan structure raised on pillars like the one of similar date at Faversham in Kent. Population (1951) 74,479.

Gloucester and Worcester. Gloucester and Worcester are two other examples in the west country of towns which grew in importance as cathedral cities and have retained their importance in the modern guise of county towns and market centres. Both were Roman towns, the former being identified with Glevum—with York, Lincoln and Colchester, one of the four *coloniae* in the country. It is possible that the four main streets of the city, meeting at the cross, are, as at Chester, on the

sites of the four main streets of the Roman town.

Gloucester can boast an almost continuous history; for there was a Saxon monastery, founded only a little later than that of Canterbury, and one which was re-established by the Normans as a Benedictine abbey. A large part of the present cathedral dates from the Norman re-building, whilst the cloisters are the most spectacular in England and still show the carrels, or stone reading-desks, at which the monks worked. The Chapter House, also, is of Norman construction.

There is no doubt that Gloucester owed its first importance to its position at the point where the Severn could be forded. Similar factors have assured its continued growth, for all roads from the west and south-west converge here to cross the Severn into Wales, so that it has become one of the most important points in the rail and road communications of England. Population (1951) 67,268.

Worcester, similarly, owed its early importance to the fact that a road forded the river at this point. In many ways its story is similar to that of Gloucester. The cathedral was the church of a Benedictine abbey and, as at Gloucester, parts of the nave show the craftsmanship of the Norman master masons; but whereas Gloucester has attained its modern eminence by reason of its transport facilities, Worcester has developed by its manufacturing industries, one of which, the manufacture of

porcelain, is of historic importance as well as modern economic value. Worcester sauce and gloves are its other best-known products. Since the Industrial Revolution the town has benefited by its proximity to the south Staffordshire coal-field whilst retaining its position as the most convenient point of distribution for the Vale of Severn. Population (1951) 59,700.

Lincoln and Norwich. In the eastern counties the present eminence of Lincoln and Norwich is based on similar factors. Both are the county towns of their respective counties; both are primarily the centres of an agricultural district and the only major cities within hundreds of square miles. Both, like Worcester, have grown as distributing centres and have developed local industries to supply the needs of the towns themselves and of the surrounding districts; but, whereas the Vale of Severn consists mainly of pastureland, the Lincolnshire and Norfolk countryside is less suited to pastoral use and more adapted to the production of corn and other crops. These latter require machinery so that it is not surprising that Lincoln and Norwich rank among the most important towns in the manufacture of agricultural machinery.

Lincoln was a Roman *colonia* on the main road to the north. Parts of the Roman walls and one of the original gates are standing. The Jews' House is one of the few examples of Norman domestic architecture in the country, whilst the cathedral dominates the whole town to an extent which is only comparable with the dominance of Ely Cathedral over what, in the case of Ely, is little more than an oversized village. Population of Lincoln (1951) 69,412.

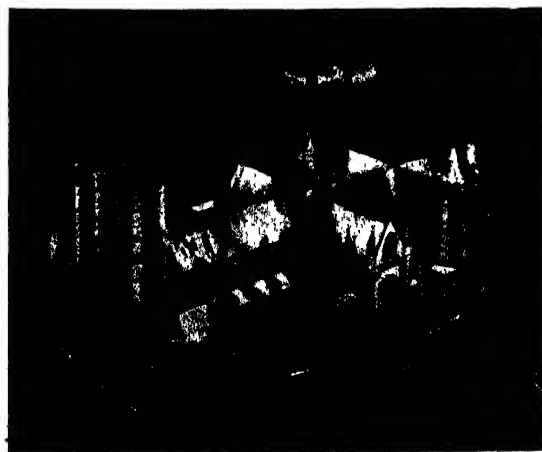
Norwich is the unofficial capital of East



NORWICH

Above. The Norman Castle. *Below.* A gabled street in the old part of the town

Photos: Norwich Town Clerk



LINCOLN CATHEDRAL

Photo: Central

Anglia. Unlike Lincoln it stood apart from the dominant Roman influence. It was as a Norman city that it first attained a more than local significance. The castle was the largest in East Anglia, and a building which was virtually unassailable, as the massive masonry visible to-day amply proves. The cathedral, too, was built in the early days of the Norman era and is more completely Norman in design than any other cathedral in the country. The walls have largely disappeared in the rapid modern growth of the town, but of the two gates, one belongs to the thirteenth century scheme of fortifications; the other to that of the fifteenth century. Moreover, Norwich retains an unusually large number of old houses. The earliest, Suckling House, is a large building of the fourteenth century, admirably illustrating the wealth of the Norwich citizens



CAMBRIDGE

King's College and the Chapel, the latter a perfect example of the advanced Perpendicular Style of Gothic architecture

Photo: Fox

at that period in its history. Like Canterbury, Norwich owed much of its medieval wealth to the benign influence of the Flemish immigrants who brought their weaving art to perfection in an alien country and assured a long continued economic progress. Population (1951) 121,226.

Wakefield, Coventry, and Oxford. In all the cities described the cathedral has been the dominant factor in medieval history and remains the chief centre of interest, even though commerce and industry are well represented. Three cities remain to be considered which do not conform to this plan. In two of them—Wakefield and Coventry—the historic associations are not forgotten, but are necessarily secondary to the commercial development which has taken place. In the case of the third—Oxford—the university has always dominated the cathedral and here, though industry has taken a firm hold on the life of the townspeople, the university buildings remain the most striking feature of the city. Coventry is chosen as an example of a modern town which has only comparatively recently (1918) attained the status of a cathedral city.

The importance of Wakefield in medieval times may be judged by the fact that it was granted a licence for a Fair as early as 1203, whilst its markets are probably of greater

antiquity. It was the centre of an episcopal See from the end of the seventh century—a dignity which later lapsed and which was not recovered until 1836. One of the oldest customs recorded in England is associated with this city which paradoxically is now intimately connected with the modern woollen industry. A dignitary known as the Wakeman blows a horn in the market-place every evening at nine o'clock—a curfew custom which is almost certainly a survival from Saxon lore. Population (1951) 60,380.

Traditions associate the foundations of Oxford University with King Alfred, but there is little evidence that the first college was founded before the thirteenth century. It is at least certain that the foundation of the university and the foundation of the city were contemporary and that it has always been, as it still is, pre-eminently a university city. Cambridge was founded later, actually by a dissentient group from Oxford, and has since had a similar history.

The chief manufactures of Oxford are represented by motor-car factories and pressed-steel works; these are situated some miles from the town centre (or Carfax) and have not materially affected its appearance, though they have enormously increased its population and

made the old distinction between Town and Gown meaningless. Population (1951) 198,675.

Finally, Coventry, though it still possesses half-timbered houses, fragments of the city wall and two of the medieval gates, is dominated entirely by the evident signs of industry which here, as at Oxford, are concerned with the manufacture of motor-cars and include also the production of cycles, hardware, and food stuffs. Population (1951) 258,211.

The cities which have been described illustrate the various types of historic towns of which England has an unusual number. Of

the remaining cathedral cities several, like Ely and Lichfield, are more akin to the market-town; a few, like Durham, give the impression of a stronghold, self-contained and self-sufficient; others, like Chichester, have become mainly residential centres, whilst others again, like Peterborough and Wells, though they are larger than Ely, appear to have passed their chief era of development. Two factors form a link between one and all--the cathedral itself and the medieval houses and streets which are inseparable from the cathedral cities of the old foundation.



OXFORD

Looking up "The High" towards Carfax, with Queen's College and Brazenose College on the right, the Examination Schools and University College on the left

Photo. Photographs Publications

THE BRITISH COMMONWEALTH

THE British Commonwealth, covering a superficial area of some 14,500,000 square miles, and with a total population to-day well in excess of 500,000,000, is composed of the British Commonwealth of Nations and the Dependent or Colonial Empire.

The members of the British Commonwealth, the United Kingdom, Canada (including Newfoundland and Labrador), the Commonwealth of Australia, New Zealand, India, Pakistan, Ceylon, South Africa and the Federation of Rhodesia and Nyasaland, receive separate treatment in the volumes of this work: the United Kingdom, the Union of South Africa, the Republics of India and Pakistan, the Dominion of Ceylon, and the newly-constituted Federation of Rhodesia and Nyasaland in this volume, and Canada, Australia and New Zealand in Volume 3.

The Dependent Empire is scattered geographically throughout the five continents.

In Europe it includes Jersey, Guernsey and the other Channel Islands (see *Islands of Great Britain*); Gibraltar and Malta (see *The Iberian Peninsula*).

In Asia it includes Cyprus; Aden (see *Asia Minor and the Near East*); the Maldivé Islands some 400 miles to the south-west of Ceylon; Hong Kong; Borneo, including Labuan, formerly one of the Straits Settlements; Brunei; Sarawak; Singapore, and the Federation of Malaya. The Federation, formed in 1948, consists of the settlements of Malacca and Penang, and the states of Perak, Selangor, Negri Sembilan, Pahang, Johore, Trengganu, Kelantan, Kedah and Perlis. (For Borneo, the Federation of Malaya, and Singapore see the chapter on Southern Asia and Indonesia; for the island of Hong Kong see the chapter on *The Far East (China)*.)

The Dependent Empire in Africa consists of the three Protectorates of Bechuanaland, Basutoland and Swaziland (see *Intertropical Africa*); South West Africa, which is now represented in the Parliament of the Union of South Africa;

British East Africa (which see), including Kenya Colony and Protectorate, Uganda Protectorate and the Trustee Territory of Tanganyika, Zanzibar and Pemba; the Anglo-Egyptian Sudan (held in condominium); and British Somaliland in the north-east; British West Africa, including the Colony and Protectorate of Nigeria, the Colony and Protectorate of Gambia, the Gold Coast together with Ashanti and the Northern Territories (which has recently had conferred on it a greater degree of responsibility in conducting its own affairs), the Colony and Protectorate of Sierra Leone, and the Trustee Territories of Togoland and the Cameroons; the islands off the east coast of the continent, Mauritius and the Seychelles; and those off the west coast, St. Helena, Ascension and the Tristan da Cunha group (see *Islands of the Atlantic*).

The British colonies in North and South America are Bermuda; British Guiana and British Honduras on the South American Continent; the West Indies, consisting of the Bahamas, Barbados, Jamaica, the Turks, Caicos and Cayman Islands, the Leeward Islands (Antigua, St. Kitts, Nevis and Anguilla, Montserrat and the Virgins), Trinidad and Tobago, and the Windward Islands (Grenada, St. Vincent, Dominica and St. Lucia); and finally the Falklands.

In Australia and Oceania, the Commonwealth of Australia administers the Territory of Papua, and New Zealand administers the Chatham and Cook Islands and Niue; the Fiji Islands and the Pacific Islands (the Tonga, Gilbert and Ellice and the Solomons) are Crown Colonies (see *Islands of the Pacific*); and the New Hebrides are governed by a condominium in which Britain shares sovereignty with France. Of the Trustee Territories, Nauru is administered jointly by Britain, Australia and New Zealand; the Bismarck Archipelago and former German New Guinea by Australia; and the Territory of Western Samoa by New Zealand.

THE BRITISH ISLES: FACTS AND FIGURES

THE UNITED KINGDOM

AREA, TOWNS, POPULATION AND TRANSPORT

	Area	Population (1951 census)
	Square miles	
England	50,327	43,744,924
Wales	8,016	
Scotland	30,405	5,095,964
Northern Ireland	5,237	1,363,579
Isle of Man	221	55,213
Channel Islands	75	102,770
United Kingdom	94,281	50,368,455

Capital City: London (County), 3,348,336 (Greater London, 8,346,137); London (City), 5,268. *Chief Towns:* Birmingham (1,112,340); Liverpool (789,532); Manchester (703,175); Sheffield (512,834); Leeds (504,954); Bristol (442,281); Nottingham (306,008); Hull (209,068); Bradford (292,394); Newcastle (291,723); Leicester (285,061); Stoke-on-Trent (275,095); Coventry (258,211); Cardiff (243,627); Portsmouth (233,464); Plymouth (208,985).

Glasgow (1,089,555); Edinburgh (466,770); Belfast (443,143).

(Population figures from the 1951 census)

Other Particulars:

Birth Rate: 1939: 15.2 per 1000 population.
1951: 15.9 " "

Death Rate: 1939: 12.2 per 1000 population
1951: 12.6 " "

Transport:

Roads (1951).

First class . . . 29,089 miles (14.6 per cent)
Second class . . . 19,439 " (9.8 " ")
Other roads . . . 149,563 " (75.6 " ")

Road Vehicles (1951):

Cars 2,429,850
Motor cycles 857,560
Commercial goods motors 954,300
Total of licensed motor vehicles 4,733,940

Civil Aviation (1951):

Miles flown: 53,675,000.
Freight carried: 37,580 tons.
Passengers carried: 1,411,000.

British Railways (1951):

Mileage open for traffic: 19,400
Length of track: 52,000 miles
Goods traffic: 284,000,000 tons
Passengers carried: 1,001,000,000
Locomotives: 19,300
Electric motor vehicles of London Transport Executive: 2,362
Passenger carriages: 42,000
Passenger carriages of L.T.E.: 1,640
Freight wagons: 1,109,000

Mercantile Marine:

(Registered gross tonnage 1951)

		Tons
Steam vessels:	5,205 with gross tonnage	11,665,510.
Motor "	8,265 " "	6,972,282.
Sailing "	3,075 " "	365,086.

War Losses 1939-45

2,544 vessels, 11,842,906 tons

N. Ireland Railways (1951):

Length of track: 1,144 miles
Passengers carried: 18,200,000
Goods traffic: 1,930,000 tons

THE UNITED KINGDOM

PEOPLE AND INDUSTRY

	Females	Males	Total
Total population over 15 (1951)	20,542,000	18,277,000	38,819,000
Total occupied (1951)	7,392,000	15,940,000	23,332,000

Principal Occupations

(Thousands of insured persons over fifteen years engaged in Industry) (1951)

	Females	Males	Total
Agriculture, forestry and fishing	132	1029	1161
Food, drink and tobacco	356	485	841
Mining and quarrying	18	847	865
Building and contracting	40	1315	1355
Chemicals and allied trades	141	344	485
Metal manufacture	66	486	552
Engineering, shipbuilding and electrical goods	404	1493	1897
Textiles	650	462	1112
Clothing	503	201	704
Paper and printing	199	328	527
Transport and communication	239	1506	1745
Distributive trades	1051	1138	2189

Production for Export

(Value of exports of produce and manufactures 1951)

	£ Million		£ Million
Machinery	365.2	Cutlery and hardware	62.7
Vehicles (including ships and aircraft)	480.3	Pottery, glass, etc.	67.4
Iron and steel goods	159.6	Apparel	46.1
Cotton, yarn and manufactures	209.2	Silk and artificial silk, yarn and manu-	
Chemicals, dyes, drugs, etc.	142.7	facture	64.3
Woollen and worsted, yarn and manu-		Food and drink	136.5
factures	176.8	Tobacco	24.5
Electrical goods	96.6	Paper, cardboard, etc.	42.4
Non-ferrous metal goods	70.5	Coal	29.2

Trade Unions:

Year	Number of Unions	Membership		
		Females	Males	Total
1936	1041	802,000	4,506,000	5,308,000
1951	704	1,669,950	7,564,960	9,234,910

Savings Banks, Provident Societies, Etc.

Building Societies:

Total (1951): 807. Share Capital: £1,054,770,000.
Balances due on mortgages: £1,156,200,000.

Industrial and Provident Societies:

Total (1951): 6246. Membership: 12,805,000.
Assets: £742,345,000.

Friendly Societies:

Total (1951 including branches): 15,226. Membership: 6,980,000. Benefits paid out: £7,272,000.
Total Funds: £209,770,000.

General Trading Retail Co-operative Societies:

Total (1951): 1109. Membership: 10,744,600.
Capital and Reserves: £339,758,000. Sales Turnover: £649,800,000.

Post Office Savings Bank:

Number of accounts (1951): 22,450,000. Average size of deposit: £83 10s. (app.). Total deposits: £1,875,920,000

UNITED KINGDOM

AGRICULTURE AND RURAL LIFE

Acreage Under Crops:

(Figures given correct to nearest thousand)

	Acreage in thousands		Quantity Harvested (thousand tons)	
	1930	1951	1930	1951
Wheat	1,706	1,141	1,615	2,316
Barley	1,013	907	891	1,030
Oats	1,127	871	1,003	2,616
Mixed corn	85	835	71	604
Rye	14	94	10	47
Total under corn	5,315	7,813		
Total arable land	12,906	11,932		
Grassland for hay	5,009	6,111		
Permanent grassland	18,773	13,110		

Other Crops:

Potatoes	704	1,050	5,218	8,284
Sugar Beet	345	425	3,529	4,536
Fodder:—				
Beans	135	109	111	94
Peas	37	32	23	23
Turnips and swedes	712	600	10,076	9,931
Mangolds	216	264	4,060	6,083
Vegetables	292	432	2,402	2,393
Fruit	301	332	824	942
Hops	19	22	14	16

Distribution of Crops

Total area under crops and grass—	
England and Wales	75 per cent
Scotland	15 per cent
N. Ireland	10 per cent

Total arable land—	
England and Wales	69 per cent
Scotland	23 per cent
N. Ireland	8 per cent

Acreage under corn crops—	
England and Wales	77 per cent
Scotland	18 per cent
N. Ireland	5 per cent

Specialization of Crops

England and Wales	95 per cent wheat
	56 per cent oats
Scotland	33 per cent oats
N. Ireland	11 per cent oats
	95 per cent flax

(figures in each case represent percentage of total acreage of each crop in U.K.)

Livestock (in thousands)

(Figures for U.K.)

	1939	1951
Cattle	8,872	10,473
Sheep	26,887	19,961
Pigs	4,394	3,890
Poultry	74,357	94,252

UNITED KINGDOM

MINING AND POWER PRODUCTION

Minerals Mined:

(Figures for the United Kingdom in tons for 1951)

Coal	222,257,000	Oil shale	1,412,000
Metalliferous ores—		Salt	4,648,000
Iron ore and ironstone	14,648,000	Slate	178,000
Tin ore (metal content)	9,000	Clays	27,482,000
Lead ore, dressed	73,600	Gravel and sand	43,249,000
Zinc ore, dressed	69,700	Igneous rocks	12,269,000
Other minerals—		Limestone	26,806,000
Barytes and witherite	88,000	Sandstone	3,223,000
Fluorspar	64,000		
Gypsum and anhydrite	2,284,000		

Products from Minerals:

(Figures for 1951)

Pig iron and ferro-alloys, 9,669,000 tons; steel ingots and castings, 15,638,000 tons; coal gas, 400,424 millions cubic feet; water gas, 83,871 millions cubic feet.

Residual Products:

(Figures for 1951)

Coke and breeze, 28,470,000 tons; tar, 608,000 tons; pitch, 639,000 tons; crude naphthalene, 12,600 tons; natural phenol, 11,200 tons.

Electric Power:

(Figures for 1951)

Number of generating stations, 350; electricity generated, 58,490 million kwh.

REPUBLIC OF IRELAND

Area:
27,137 square miles

Currency:
The Irish pound is on an exchange parity with the £ sterling

Provinces	Area	Population (1951 census)	Agricultural holdings
	Acres		
Leinster	4,851,486	1,330,576	106,427
Munster	5,962,074	898,870	120,916
Connacht	4,230,824	471,895	101,728
Ulster (part of)	1,979,732	253,272	53,247
Totals	17,024,116	2,960,597	382,318

Chief Towns (1951):

Capital City: Dublin (521,322). *Other Large Towns:* Cork (74,577); Limerick (50,823), Waterford (28,684); Galway (21,271); Dundalk (19,661); Drogheda (16,773); Sligo (13,533); Wexford (11,976).
Urban population (towns of 1,500 and over): 41.5 per cent of total; *rural*: 58.5 per cent.

Communications:

Roads (1951): 49,342 miles.
Railways (1951): 2,440 miles.
Inland navigation: 566 miles.
Mercantile marine: steam vessels, 75; net tonnage, 25,162; motor vessels, 309; net tonnage, 6,042.
Civil Aviation (1951):
Passengers carried: 270,000.
Freight carried: 3,800 tons.

Livestock (1951):

Horses and ponies, 390,000; Asses, 102,000; Mules, 4,000; Cattle, 4,300,000; Sheep, 2,400,000; Pigs, 640,000; Poultry, 18,839,000.

Agriculture (1951):

Crop	Area	Crop	Area
	Acres		Acres
Wheat	281,637	Potatoes	321,448
Oats	619,940	Turnips	128,878
Barley	167,174	Mangolds	76,334
Rye	3,742	Sugar beet	59,885
Total corn crops	1,073,614	Cabbage	10,373
Pasture	7,934,698	Total root and green crops	619,786
Hay	1,936,263	Flax	11,947
Woods, plantations, etc.	5,435,872	Fruit	11,936

Total area under crops, pasture, woods, plantations, etc.
17,024,116

Industrial Production, 1951

	£ Thousand
TRANSPORTABLE GOODS—	
Food	102,660
Drink	15,837
Tobacco	23,937
Other manufactures	127,209
BUILDING, CONSTRUCTION AND SERVICES—	
Laundry, dyeing and cleaning	1,697
Building and construction	24,205
Utilities (gas, water, electricity)	10,455
Transport	5,026
Local authorities and government departments	12,277
GROSS INDUSTRIAL OUTPUT	£322,853

Total number of persons engaged in industrial production, 226,390

Agricultural Production, 1951

	£ Thousand
Wheat	5,707
Oats	1,681
Barley	4,371
Sugar beet	3,137
Potatoes	7,428
Cabbage	1,614
Fruit	568
Hay	553
Flax	502
Other crops	1,410
Turf	8,207
Livestock and livestock products	108,746
GROSS AGRICULTURAL OUTPUT	£143,924

Total number of persons engaged in farm work, 452,704.

Other Particulars:

Type of State: Independent Republic, now no longer a member of the British Commonwealth.

CHAPTER ONE

THE CONTINENT OF ASIA

ASIA is the largest continent. It has also a larger population than any other and the most uneven distribution of population. The great mass of the people is concentrated in the south, south-east and east of this vast area—in India (density 288 per square mile), in China (density 109), and in certain islands such as Java (940 per square mile) and Japan (584). Central Asia and huge stretches of Siberia have a population of under 5 to the square mile, and the Arabian peninsula has only about 7.

The reason for this uneven distribution is not far to seek. It lies in the climate, which is in turn influenced by the relief and distance from the sea of the interior of the continent. The Tropical Monsoon climate, for instance, such as is enjoyed by China, affords plenty of food with the minimum of effort and so favours a dense population. Of course, the denser the population becomes the more labour is necessary by the individual to maintain himself, and certainly the Chinese peasant cannot be accused of living a life of indolence.

Even within this monsoon area, however, relief (and consequently soil fertility) changes the conditions considerably. The most densely peopled parts of Southern and Eastern Asia are the great alluvial plains. The mountains and high plateaus of central Asia have always formed an insuperable barrier to man's movements north and south, and this barrier effectively separates the two great divisions of mankind within the continent.

The first fact of prime importance, then, when we try to visualize Asia as a continent, is that its vast size suggests that we shall find, as we do actually find, that it presents us with the finest contrast in the world between the two stages in the physical history of our globe. Its Arcto-Atlantic area gives us, on a huge scale, the horizontal features so typical of, and so obvious in, Europe; its Indo-Pacific area gives us, again on a huge scale, the vertical features so typical of, and so obvious in, South America. But, if—without any belief whatever in any positive geographical determining—we do be-

lieve in some organic "response" to inorganic "control," then we may expect that the different inorganic environments will have favoured—not caused!—different organic developments, in plant and beast and human life; and the story of Asia at once confirms our expectation.

For the Arcto-Atlantic half of the continent consists largely of endless leagues of low and level land, much of it grassland (steppe), varying greatly in degrees of fertility, but everywhere suited to the support and the movement of grass-eating animals, such as horses and sheep; and on these vast steppes horse-riding nomads were able to move with great ease and at a speed incredible to foresters and gardeners. Further, they were compelled to wander continuously in this way in search of fresh pastures when their old pastures had been eaten down; and these were the conditions behind the great raids of Huns and other Asiatic nomads into Europe, and the raids were predominantly westward because that meant rainward, and the increased rainfall meant better pasture. It was the speed of the raiders that made Europeans grossly over-rate their numbers.

In the Indo-Pacific hinterland of Asia the conditions are profoundly different, and so its story has been very different. Here about 45 per cent of the total population of the world is concentrated on less than 5 per cent of its land-surface, and it is scarcely an exaggeration to say that they are all gardeners. Certainly, 700,000,000 of them are actually and literally gardeners or farmers farming on a tiny scale. But these gardeners, glued to their tiny plots of very fertile soil and spending on these plots infinite toil and care and patience, have had almost ideal conditions for thought and contemplation; and amongst them there have been evolved not only handicrafts of profound delicacy and detail, but also the great creeds of calm and contemplation, Buddhism and Hinduism.

Comparison of the Continents. But it is really more useful to compare Asia as a whole

with the other continents than to compare one section of it with another; and, when we do so, we find that it has less in common with the southern continents than with the northern, though it is differentiated from all of them by its gigantic size—about one third of the land of the whole world. With the continent next in size, Africa, it has only one point of marked similarity—the development of plateau on an enormous scale; but, while this leads in Africa to a paralysing monotony of relief and even of scenery, Asia has room for other features also on a similar scale, and so there is no lack of variety. The other southern continent, South America, has glaring extremes of relief—extremes which, in a relatively small area, give violent contrasts and obvious lack of proportion; but in Asia the extremes, though still greater—the range of altitude being fully 5000 feet more than in South America—have such a gigantic background that they are in proportion.

A wide view of the land masses of the Northern Hemisphere shows that they form a very real unit, and so have many points of likeness. Indeed, if we analyse the lands on each side of the North Atlantic, we find that, as we work away from the ocean, we cross in *both directions* exactly the same kinds of region. For instance, both central Russia and eastern Canada are forested platforms of old rock; both the Urals and northern Ontario are rocky belts of mineral wealth, covered with forest and ending southward in water-filled basins, the Caspian Sea and Lake Huron; in both cases, as we go farther from the Atlantic, we come to vast grasslands, prairies and steppes, with extreme continental climates; beyond these again there are forested ranges flanked southward by waterless basins, the Great Basin and the Gobi; and along the Pacific there is in each case an abrupt descent to an island-fringed fjord coast. The only important difference is the scale—the total distance in Canada being less than 3000 miles, while in Asia it is nearly 5000.

As Europe is really a peninsula of Asia, it is better to confine comparisons to definite subdivisions of each unit. The high, barren, compact block of western Asia, Arabia, is very like—though on a huge scale—the Iberian block of western Europe; and the central peninsula of southern Asia is—again on a huge scale—like the central peninsula of southern Europe, from its northern arc of Alpine ramparts, across its low and level longitudinal plain and over its lofty latitudinal peninsula,

to its terminus in a southern island. Apart from scale, the main differences are that Italy has no real plateau block corresponding to the Deccan, and that peninsular India has no real mountains like the Apennines.

These individual differences, however, are not really the important things. The one fact of prime importance is that in Asia these subdivisions are too far apart in actual distance and in geographical conditions to have had any common history such as the European subdivisions have had, e.g. in the Roman Empire; and the units which seem most comparable with those of Europe, Arabia and the Deccan, are in latitude and climate essentially unlike any European areas. For they are just tropical fragments of a very ancient "Gondwana" continent, first left as great islands when Gondwanaland broke up, and then converted into terminal peninsulas of another old continent, Angaraland, by the silting up of the great strait to the north of them to form the vast plain of Hindustan.

The Skeleton of Asia. The general skeleton of the continent, if we ignore the relatively narrow Pacific hinterland, is wonderfully simple in spite of the tremendous size. The backbone is a line of buttressed blocks, which may be called, roughly, Armenian in the west and Tibetan to the east, and these blocks are buttressed by the Taurus, Zagros, and Himalayan mountains on the south, and by the Pontus, Hindu Kush, and Kun Lun mountains on the north. Still farther north these northern buttresses drop abruptly to low basins, the Kura, the Turan, and the Tarim basins, while the southern buttresses drop abruptly to the ocean or to the low plains of Iraq and Hindustan. North of the Kura-Tarim basins there rises a line of Alpine ranges, Caucasus and Tian Shan, and these descend still farther north to old platforms, Russian and Siberian.

The size and the continuity of the great central highlands make them a terrific obstacle to movement north-and-south, while the apparent ease of movement east-and-west is greatly modified by the immense areas of inland drainage, much of it absolutely rainless desert. Some 5,000,000 square miles, i.e. 35 per cent of the whole continent, have no oceanic drainage; and, of that total, nearly 3,500,000 square miles, i.e. 24 per cent of the whole, have practically no drainage of any kind.

No National Type for Asia. Movements east-and-west must always have been hampered, too, by the vast longitudinal extension of the

continent—through 160 degrees of longitude; and it is mainly this longitudinal extension in latitudes where the regular winds tend to blow from the west, i.e. across Europe, that makes the interior of Asia so remote from the Atlantic that it is rainless. Of course, the Pacific hinterland is nowhere very far from the ocean; but the eastern seas are terribly storm-swept, and some of them are completely ice-bound every winter. As the continent has not a long coast for its size (1 mile of coast to 500 square miles of area), and as much of the coast is practically useless or very dangerous, the Asiatic seas have been truly “estranging,” and have tended to keep the different parts of the continental margin isolated from one another instead of linking them, as in Europe. The same is true of the continent as a whole; vast distances, gigantic mountain masses, leagues of desert, have made it a continent devoid of unity and coherence. There is no such person as a typical Asiatic; and no single racial or national type has ever been able to speak for Asia.

Comparisons in Size. Every one knows that Asia is the largest continent in the world, and has the loftiest peaks; but the knowledge is often too vague to be significant. We should accustom ourselves to think of it less vaguely—as nearly six times the size of Australia, four and a half times the size of Europe, half as large again as even Africa, much larger than North America and South America combined. Russian Asia alone is nearly twice the size of Europe, Siberia alone being half as large again as Canada or the United States or Brazil.

More or less the same is true of its superiority in altitude. The culminating peaks are *a mile higher* than those of the Andes or the Rocky Mountains, and a large proportion of the whole continent is higher than any peaks in the British Isles. And yet neither size nor extreme height is the outstanding feature of the continent. That is the gigantic development of plateau, which stretches over the whole 9000 miles between the Aegean Sea and the Bering Strait, with an extreme width of nearly 2000 miles—towards the centre. The pivot of the whole is the Pamir (“High Flat”), and its easiest crossing, though not the shortest, is over the 600 miles of “the Herat Gate” (Hari Rud valley), where there is no serious obstacle to railway communication between the Caspian basin and the Indus valley.

This huge plateau system, the size of South America, is the nucleus of the continent, and

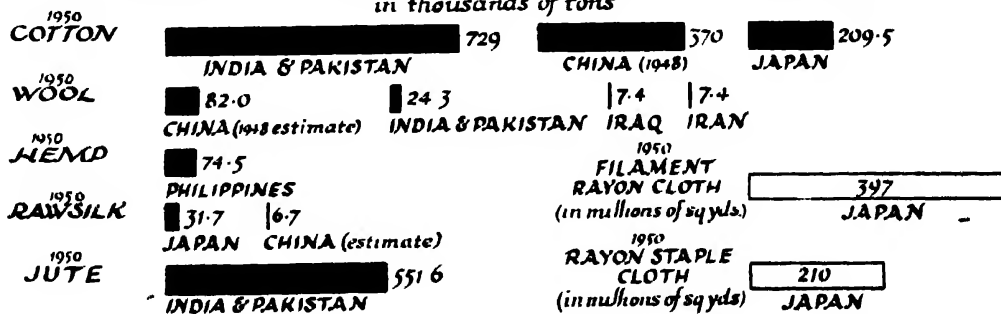
the Pamir pivot divides it into two very similar, but unequal, units or series of units—a lower and narrower and shorter western series, lying between the Aegean and the Indus plain, and a higher and wider and longer eastern series, lying between Bering Strait and the Ganges plain. The size and the height and the climate of this vast system makes it a tremendous divide and barrier between the continuous Arcto-Atlantic lowlands of the continent and the discontinuous Indo-Pacific lowlands. Its “High Tartary” grassland was the geometrical centre of Genghis Khan’s empire (Manass, c. 44° N., 86° E.) when that stretched from the Dneiper to the Amur and from the Caspian to the Yellow Sea.

Series of Terraced Platforms. The two great series, or lobes, of plateau are closely alike in structure and relief. Each is built in terraces, is edged by lofty marginal heights, and is flanked by Alpine ranges; and each terrace is ribbed with sierras, and is itself edged by border heights (the turned up edge of the block, and not real mountains); and so the whole lobe makes a series of terraced platforms, one inside another and decreasing in size with increase in height. There are seldom more than three of these concentric levels.

The western lobe is not only smaller in every way than the eastern, but also it drops abruptly to the sea or to lowlands, e.g. in the Elburz and the Pontus ranges, the Taurus and the Lebanon; and its northern sky-line, e.g. in the Elburz and the Pontus, is higher and steeper and more continuous than the southern. The eastern lobe, except on the Hindustan plain, where the two lobes meet, drops to high plains; and on the Arcto-Atlantic front these plains run north-east and south-west for 4000 miles, with a normal breadth of 400 miles. West of Lake Baikal, however, on a natural “line of least resistance” (to movements of man and beast) between Peking (Peiping) and Irkutsk, the breadth is nearly twice as much; and, again on the Arcto-Atlantic front, with its exposure to ocean influence, the scarp has been so much weathered by rain and wind, snow and ice, that it looks from below like an Alpine range, and gives very easy access up on to the plateau by such valleys as those of the Amur and the Syr, the Ili and the Irtysh, the Ob and the Yenisei. On the contrary, the eastern, or Khingan, scarp is an almost unbroken barrier for 1400 miles, so that access to the plateau from the Pacific is difficult except in the extreme north-east.



Comparative Map & Chart of
TEXTILE RAW MATERIALS OF ASIA*
 in thousands of tons



* U.S.S.R. omitted.

North-west of this great plateau nucleus the mass of the Arcto-Atlantic hinterland is a vast lowland, which, like Canada, drains towards both the Arctic Ocean and the Atlantic; but here the distances are so immense that none of the rivers reaches the Atlantic, and few reach the Arctic. There is a considerable variety of relief detail, but it is much less than in Canada; for instance, even Semipalatinsk, though 1500 miles up the Ob-Irtysh river, is less than 400 feet above sea-level. Thousands of square miles are dead flat and often quite stoneless, being the old floor of an ancient Arcto-Aral Sea. During the annual floods of the great rivers, too, much of this receives an annual top-dressing of river-borne mud, so that the dead level is strictly preserved, and its fertility is annually renewed.

Population. Obviously, this huge, continuous lowland offers a more or less appropriate "home" for a single, gigantic, political unit, and its potential wealth is beyond calculation at present; but its size and its shape, with their immense distances and their Arctic winters, were bound to hamper and delay any real political unity or coherence. In any case, to put even twenty persons to every square mile, i.e. a density approaching that of Finland or Norway, would need the equivalent of the whole population of the African continent!

It is scarcely possible even to attempt to make any useful generalization about the densely peopled and discontinuous lowlands of the Indo-Pacific hinterland; and the density, the individuality, and the great importance of the peoples—historically, politically, economically—demand individual and detailed attention elsewhere in this volume. But a little more attention may be devoted to the plateau nucleus between the two great hinterlands, with special reference to its wonderful mountain systems.

The Young Folded Mountains. The northern edge of the great plateau system is a long arc from the Aegean to the Okhotsk Sea; the southern edge is a series of festoons—of Alpine ranges. Throughout the greatest longitudinal extension of the continent, too, on a line parallel with latitude 40° N., there runs a more or less continuous spine of Alpine ranges—Pontus, Elburz, Hindu Kush, Kun Lun, Tsinling. East of the Pamir pivot, however, this spine has less importance than its two wings—the Tian Shan and the Himalayan ranges. The long northern arc, too, is much less important than the series of festoons, which are due to the deviation of the young folded line round the apex of the immovable old

Gondwana blocks, e.g. the Taurus and the Zagros round the Arabian block, and the Sulimans and the Himalayan round the Deccan block. As the southern face of these Alpine festoons is very high and very steep, access to the interior from the Indian Ocean is very difficult except where pairs of festoons meet, and so there is a "node of weakness," which is easily weathered down, especially in Armenia and on the Pamir.

This plateau, or "high flat," is—as we have seen—the pivot of the whole system because on it converge the four great lines of Alpine ranges—the Hindu Kush and the Kun Lun, as the two main units of the spine, and the Tian Shan and the Himalaya, as the two wings. The gable-ends of these ranges won for the plateau its alternative title of Bam-i-Dunya ("Roof of the World"), and the dry climate has allowed it to be a "line of least resistance" in peace and in war because it is too dry for heavy snow. Three great empires—Russian, Chinese, and Indian—meet here, as three others—Russian, Persian, and Turkish—meet on the less important Armenian focus.

The Continent's "Unknown" Heart. The Heart of Asia is still to some extent one of the great "unknown" regions of the world, though our knowledge of it has been much enlarged during the present century. It consists of two long belts, one a belt of depression along the central parallel of the continent, 40° N., and the other a belt of upheaval along latitude 35° N. Both belts are wind-swept and drought-stricken and dotted with shrinking salt lakes; but the one is a series of great barriers, while the other is a series of great passage-ways.

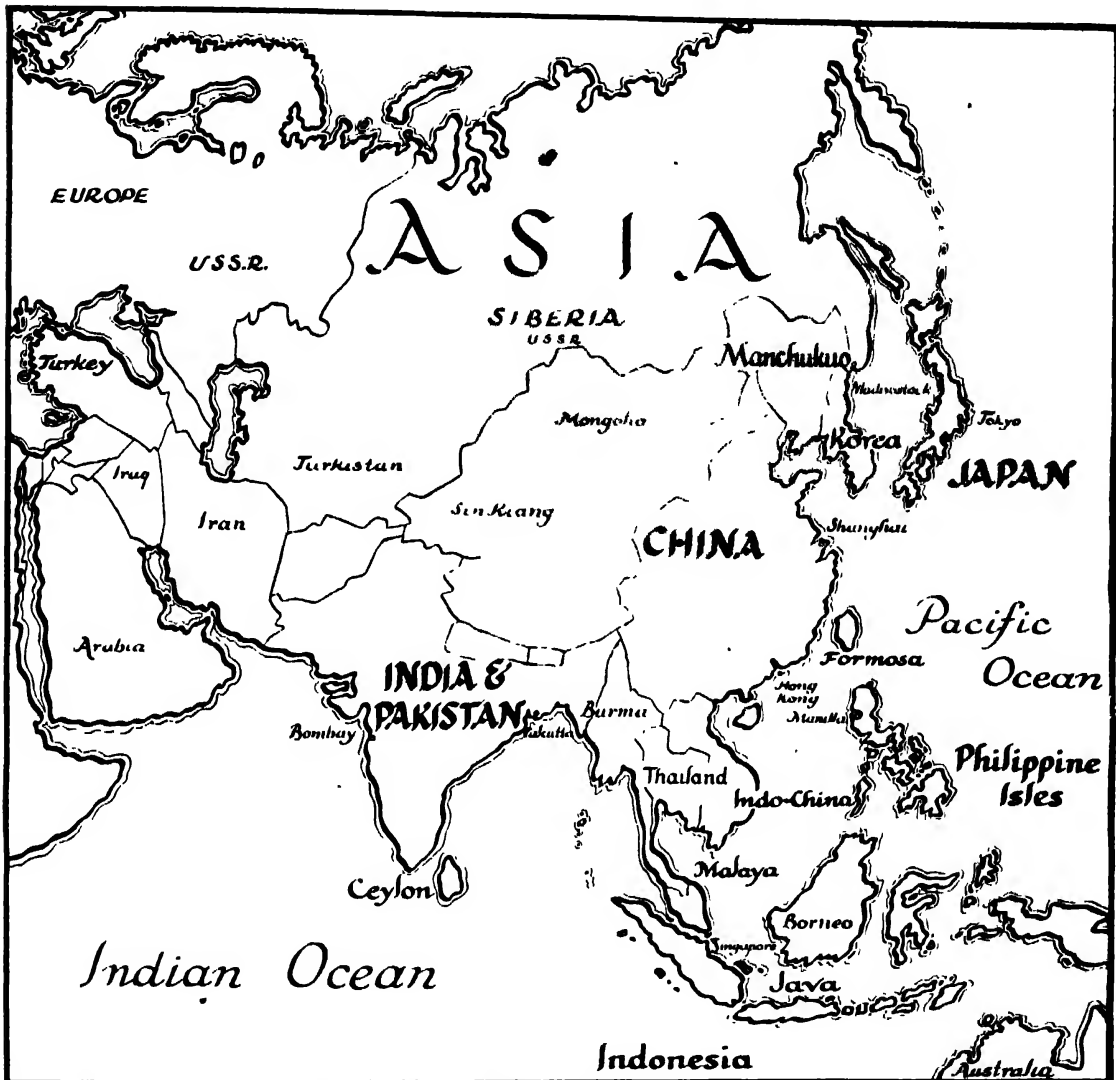
The 750,000 square miles of the lofty, mountain-fringed tableland of Tibet is the mightiest watershed in the whole world, giving rise to all the greatest Indo-Pacific rivers; but the height (often 16,000 feet), the inland position, and the huge mountain fringe to windward (south), make most of it an area of inland drainage, and terrific winds and high sun-power cause such rapid evaporation that all the lakes are salt. In spite of the high sun-power due to the great altitude and the cloudless sky, the cold is so intense that many of the numerous hot springs well up through "chimneys" of ice.

The Himalaya are a double system, with an inner and an outer belt. The outer belt, or true Himalaya, has all the highest peaks—Everest (29,002 feet, conquered at long last in



COMMON BIRD TYPES OF ASIA

1. Calandra Lark (*Melocorypha calandria*) 2. Black-throated Thrush (*Turdus atricularis*) 3. Middle-spotted Woodpecker (*Picus medius*) 4. White-winged Black Tern (*Hydrochelidon leucoptera*) 5. Eagle Owl (*Bubo ignavus*) 6. Imperial Eagle (*Aquila mogilnik*) 7. Great Grey Shrike (*Lanius excubitor*) 8. Hazel-grouse (*Bonasa betulina*) 9. Azure Titmouse (*Parus cyanus*)



Comparative Map & Chart of AGRICULTURAL PRODUCTION of ASIA*

in millions of quintals.

1950 WHEAT	CHINA (1947)	246.4	INDIA & PAKISTAN	106.9	TURKEY	38.7	JAPAN	15.2				
1950 MAIZE	CHINA (estimate)	75.0	INDONESIA	23.7	INDIA & PAKISTAN	20.5	TURKEY	10.3	PHILIPPINES	15.3		
1950 RICE	CHINA (estimate)	448.8	INDIA & PAKISTAN	290.0	INDONESIA	126.5	JAPAN	120.0	THAILAND	74.0	INDO CHINA	40.1
1950 SUGAR	INDIA & PAKISTAN	64.8	PHILIPPINES	16.9	CHINA	14.2	INDONESIA	12.8	COPRA	17.0	PHILIPPINES	1.2
1950 TEA	INDIA & PAKISTAN	12.9	CEYLON	11.4	INDONESIA	10.35	CHINA (1949)	10.127	PALM OIL	1.2	PHILIPPINES	1.2
1950 TOBACCO	INDIA & PAKISTAN	13.3	TURKEY	11.0	CHINA (1949)	10.6	RUBBER	16.9	MALAYA	152	INDONESIA	152

U.S.S.R.
omitted.

1953), Kinchinjunga, Nanga Parbat, Nanda Devi; the inner, or Trans-Himalaya, is more of sierra type, and drops landward to a high tableland, and its greater *average* height makes it the most formidable obstacle to movement north-and-south. The Kun Lun system combines the characteristics of both the Himalayan belts. Like the true Himalaya, it drops to a "lowland" (though one considerably higher than the Hindustan plain, even 4000 feet being regarded here as relatively "lowland"); like the Trans-Himalaya, it is rather of sierra type, and so its great average height makes it a tremendous obstacle. It is the longest range of mountains in Asia, it has the greatest average height (fully 20,000 feet), and it has the steepest face, falling precipitously northward to the sandy desert of Han-Hai ("the Dry Sea").

From some points of view, however, neither the Himalaya nor the Kun Lun can compare with the scaly mass of glacier-clad giants which cluster round the Baltoro glacier in the unique Karakoram system. No equal area in the world can rival this, with nearly a dozen great peaks varying from 23,000 to 28,000 feet; and yet there are relatively easy routes skirting it, by the Nubra-Shyok depression in the east and the Hunza-Gilgit depression in the west.

Strange as it may seem at first sight, one of the great passage-ways has been the Pamir itself. In spite of its name, it is not really a plateau, but a square section of the folded mountains, the upfolds much worn down and the downfolds much silted up, so that it is now a series of shallow and flat valleys running east-and-west. It is very dry and very windy, but melted snow feeds perennial streams, there is an abundance of pasture—so that the Kirghiz regularly *winter* their sheep here, and even grain (barley) can be grown. The names of lakes and valleys are significant, e.g. Rang ("Goat") and Khargosh ("Hare"). It was the old route for Buddhist pilgrims between India and China and even for Chinese armies; it contained a very busy thoroughfare between eastern and western Turkestan; it was used by Marco Polo.

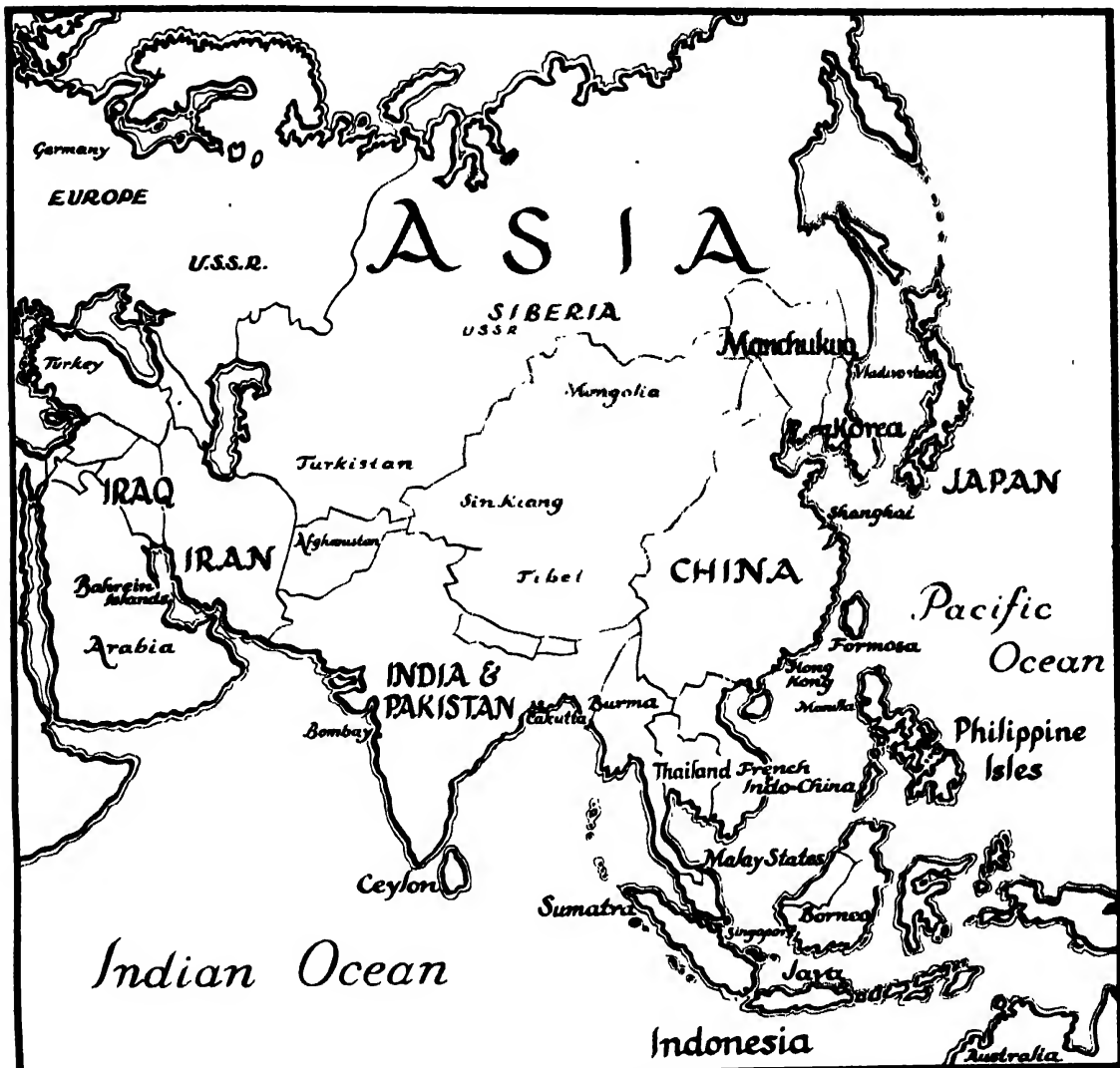
The "Silk Roads." The Tarim valley provided the two old "Silk Roads," the names of which are rather confusing. To start with, there was only one, running along the northern foot of the Kun Lun, between mountain wall and stark desert, and then running on west of the Pamirs *via* the oases of Merv and Bukhara and Samarkand. When the new route came into use along the southern foot of the Tian

Shan, again between mountain wall and stark desert, it became known as the North Road, the old one becoming the South Road.

But the great grasslands north of the Tian Shan were much more attractive to the Mongol hordes than the barren sands of the Tarim basin, and they became the centre of Genghis Khan's empire; and the silk trade first forsook the old South Road for the old North Road, and then adopted a new route—a really "natural" route for the trade, *via* Hami and Urumtsi, to the Zungarian Gate—*north* of the Tian Shan. This new road soon came to be known as the North Road (i.e. the *Tian Shan* North Road), and the old North Road came to be known as the South Road (again, the *Tian Shan* South Road). The old South Road fell into disuse, and then the two Tian Shan routes were known simply as the Nan Lu (South Road) and Pei Lu, without any reference to the Tian Shan.

A Monsoonal Climate. Size, shape, and latitude are the main factors in determining the climate of Asia. As land is the disturbing element in climate, a continent of enormous size, with 75 per cent of its area in so-called "temperate" latitudes and with a longitudinal extension of nearly 8000 miles in those latitudes, must have tremendous disturbances of normal planetary conditions, and we may expect it to have very marked seasonal winds blowing in *abnormal* directions, all of them working inwards when the heart of the continent is very hot, and outwards when it is very cold. In other words the climate of Asia is essentially monsoonal.

In winter very high barometrical pressure—unequalled elsewhere in the world—and very low temperature result in the outward flow of the winds, e.g. north-east winds across Europe and north-west winds towards Japan; in summer very low pressure and very high temperature result in the inward flow, from the west in the west, from the north in the north, from the east in the east, and from the south in the south. The winter, then, is very dry, and this helps to increase the terrific extremes of temperature, which falls to *minus* 90° Fahrenheit; and the summer is wet, with a relatively slight range of temperature. The temperature in winter averages about 20° Fahrenheit *below* the normal in similar latitudes elsewhere, and in summer averages about 12° Fahrenheit *above* the normal. The range of temperature in the Verkhoyansk "Pole of Cold" equals that between ice and boiling water, while that between Verkhoyansk in winter and Jacobabad in summer is 220° Fahrenheit!



Comparative Map & Chart of FUEL & HEAVY INDUSTRIES of ASIA*

in millions of metric tons, unless otherwise stated.

¹⁹⁵⁰ COAL	40.4	32.8	17.2
	JAPAN	INDIA & PAKISTAN	CHINA (1947 estimate)
¹⁹⁵⁰ PETROLEUM	31.8	23.4	16.5
	IRAN	SAUDI ARABIA (estimate)	KUWAIT
			INDONESIA
¹⁹⁵⁰ IRON ORE	2.5	10.83	10.25
	INDIA & PAKISTAN (estimate)	JAPAN	CHINA (estimate)
¹⁹⁵⁰ PIG IRON	2.6	1.6	
	JAPAN	INDIA & PAKISTAN	
¹⁹⁵⁰ STEEL	5.8	1.4	
	JAPAN	INDIA & PAKISTAN	

* U.S.S.R.
omitted

Such ranges of temperature are possible only when and where the air is very dry, i.e. very far from saturation point; but there are rainy places and rainy periods during the dry (or winter) monsoon, as there are dry places and dry periods during the wet (or summer) monsoon. Even in the wettest places, e.g. on the Bombay coast and the Bengal delta, and in the wettest months, e.g. July and August, the rain is not continuous; there are bursts and breaks—eight or nine in the season; and the fall varies greatly. It varies normally from 3 inches in parts of Sind to fully 13 yards in parts of Assam, and abnormally from nothing in Sind to more than 25 yards in Assam. As it comes specially in cyclonic storms (though it may be increased by marked relief), it is distributed more or less evenly, over high ground and low ground, hills and plains—a very valuable factor. Even at Patna a yard may fall in one day—probably a day early in September, in the last storm of the season.

Throughout the mass of Asia, then, there are practically only two—two very marked—seasons in the year, one dry and more or less cold and the other hot and more or less wet; and the combination of heat and moisture is as favourable to vegetation as it is unfavourable to human health, while the combination of cold with drought is the opposite in both respects.

In the south-western corner of the continent, however, which is overlapped by the “Mediterranean” climate, there is one glaring exception, the winters being wet and more or less warm, the summers hot and marked by drought.

Vegetation Zones. Once more we must stress the three determining factors—size, extension in longitude, and latitude. These three combine with the great variety of relief to produce a great number and a great variety of vegetation zones; and there are great contrasts, e.g. between Arctic and Equatorial types and between montane and lowland types.

The dominant and almost differentiating type is steppe, varying greatly in altitude and in fertility; but even the richest steppes can never make *permanent* pasture, and so the pastoral peoples must be nomads, following the seasonal changes of food-supply for their animals. These steppes probably cover one-third of the whole continent, and this throws light on the part played by Asia in the story of great movements of population.

Northward of these steppes there stretches a vast, long belt of *Taiga* or coniferous forest, though it is not all actually cone-bearing; and

this merges in the barren *Tundra* of the Arctic margin. During the long, dark winter the temperature here is below zero, and during the short, foggy summer it is not much above freezing-point; but there is a wealth of berry-bushes and flowers and lichens (e.g. the Reindeer “moss”). The temperature of the *Taiga* is equally low in winter, and the amount of swamp and the strong winds are adverse to the *quality* of the timber.

The differentiating steppe association is due to the presence of strong winds in the dry season and the lack of moisture in the hot season; but the intense frosts end in spring thaws, which can feed a carpet of grasses and other short-lived plants, and so the grasslands became the natural home of grass-eating animals. In temperate latitudes these do not attract many flesh-eating animals; and, when man appeared on the scene, he was able to provide himself with domestic animals. As the grasses die down completely in “winter,” the fauna had always to be nomadic; and, owing to the hard life and the huge distances, those that survived were bound to possess speed and endurance. This doubled their value for domestication.

The south-west of the continent is specially the home of stone fruit, e.g. peach and apricot and olive; and its drier parts produce “oasis” plants, e.g. dates and frankincense. The south-east—even most of the whole Indo-Pacific hinterland—*was* the home of habitable forest—habitable because the dry season checked growth, and allowed clearing by fire; but it now contains half of the world’s total population (2,500,000,000), and they have replaced the natural forest by “gardens,” though the climate is very favourable to semi-forest plants, such as the tea-bush. But the monsoon summers are not favourable to good fruit.

When we crown our survey with a human note, we still find the distinction between an Arcto-Atlantic and an Indo-Pacific hinterland of real importance. For south of the longitudinal Atlantic axis and west of the latitudinal Pacific axis, the population—whether tall or short, fair or dark—is wavy-haired, and may be called “White,” whatever its actual skin-colour; north of the Atlantic axis and east of the Pacific axis, it is lank-haired, and may be called “Yellow.” Some of the darkest-skinned people in the world are found amongst the wavy-haired “White” men in India, and some of the whitest-skinned are found amongst the lank-haired “Yellow” men in Japan.

ASIA: FACTS AND FIGURES

Area:
245,000 square miles

AFGHANISTAN

Currency:
100 Pulis = 2 Kians = 1 Afghani
Rupce

Population: estimated at between 12,000,000 and 13,000,000. **Capital City:** Kabul (200,000). **Other towns:** Kandahar (77,000); Herat (75,000).

Communications:

Roads: A network of passable but unmetalled roads radiates from Kabul.

Railways: none.

Chief Crops:

Fruit, cereals, and vegetables grown for subsistence only.

Minerals:

Copper, lead, iron, coal and petroleum are known to exist but are mainly unexploited.

Other Particulars:

Type of State: Kingdom. 47.04 Afghani rupees are equal to the £ sterling.

Area:
930,000 square miles

ARABIA (SAUDI ARABIA)

Currency:
22 Qurush = 1
Silver Riyal

Population: estimated at 6,000,000. **Capital City:** Mecca (200,000). **Other Towns:** Riyadh (60,000), Jeddah (60,000); Medina (50,000).

Communications:

Roads: Small network of passable roads, but camel caravan is still the most usual means of transport.

Railways: 350 miles.

Chief Crops:

Minerals:

Oil; gold.

Other Particulars:

Type of State: Kingdom. Saudi Arabia consists of the Nejd (about 800,000 square miles, mainly desert) and the Hejaz (about 130,000 square miles), the union of which took place in 1927.

Area:
261,700 square miles

BURMA

Currency:
100 Pyas = 1 Kyat (= 1 Rupee)

Population: 18,489,000 (1950). **Density:** 71 per square mile. **Capital City:** Rangoon (700,000). **Other Large Towns:** Mandalay (163,000); Moulmein (71,000).

Communications:

Roads: 10,530 miles (3760 metalled).

Railways: 1,400 miles (1950). (2,059 in 1942.)

Minerals:

Petroleum; silver; tin; tungsten; rubies; jade; lead; zinc; wolfram; sapphires; gold.

Chief Agricultural Products:

Rice; teak; rubber; sesamum; groundnuts.

Other Particulars:

Type of State: Republic (1948). The Union of Burma includes Burma proper, the Shan State, Karenni States and Kachin States.

Area:
25,332 square miles

CEYLON

Currency:
100 Cents = 1 Rupee

Population: 7,750,000 (1950). *Density:* 305 per square mile. *Capital City:* Colombo (362,000). *Chief Towns:* Jaffna (63,000); Kandy (51,200);alle (49,000).

Communications:

Roads: 16,500 miles (4805 miles main road).
Railways: 896 miles.

Chief Crops:

Tea; coconuts; rubber; cacao; cinnamon;
tobacco; rice.

Industries:

Processing agricultural products for export.

Minerals:

Plumbago (graphite); sapphires; rubies; chrysoberyls; aquamarines.

Other Particulars:

Type of State: British Dominion. *Area cultivated:* 21.5 per cent of total. *Urban population:* 15.4 per cent of total.

Area:
4,500,000 square miles

CHINA

Currency:
Yen Min Piao (People's Dollar)

Population: 484,000,000 (1950) *Density:* 109 per square mile. *Capital City:* Peking (2,000,000). *Chief Towns:* Nanking (1,000,000); Shanghai (5,400,000); Tienstin (1,800,000); Canton (1,500,000); Chungking (1,062,000); Mukden (1,500,000).

Communications:

Roads: 81,000 miles.
Railways: 7,812 miles.
Air Lines: 57,000 miles (internal services).

Chief Agricultural Products:

China is among the world's leading producers of rice; soya beans; tea; kaoliang; sweet potatoes; millet; vegetable oils. It is normally second in the production of raw silk and wheat, and third in cotton. Other crops are corn, tobacco, fruit and vegetables.

Industries:

Textiles predominate. The cotton spinning industry had about 4 million spindles operating in 1950 (4-5 million pre-war).

Minerals:

Antimony; tin; manganese; coal; petroleum; mercury; pyrites; gold; silver; haematite; arsenic; bismuth; gypsum; alum; sulphur; asbestos.

Other Particulars:

Type of State: People's Republic. The total area includes Manchuria and Inner Mongolia. Outer Mongolia is now an independent republic. *Arable land:* 670 million acres, of which 230 million acres are cultivated. *Population employed in agriculture:* 74 per cent of total.

Area:
286,000 square miles

INDO-CHINA

Currency:
20.5 Piastres = 1 U.S. Dollar

Population: 27,600,000 (1950 estimate). *Density:* 96 per square mile. *Capital Cities:* of North Viet-Nam (formerly Tongking), Hanoi (160,000); of Central Viet-Nam (Annam), Hué (40,000); of South Viet-Nam (Cochin China), Saigon (711,000); of Cambodia, Phnom-Penh (260,000); of Laos, Vientiane (10,000).

Communications:

Roads: 21,000 miles.
Railways: 1967 miles.

Chief Crops:

Rice; rubber; copra; pepper; sugar; cotton; cinchona.

Minerals:

Coal; tin; zinc; tungsten.

Other Particulars:

Type of State: Until 1946, Indo-China consisted of five States but these have now become the three Associated States of Viet-Nam, Cambodia and Laos. The French Union is represented by a High Commissioner, but power was transferred by the French to the Viet-Nam authorities on 30th December, 1949. Hostilities broke out in 1950 between the Viet-Nam government and the Communist government of Viet-Minh.

INDIA AND PAKISTAN

Area:
1,503,551 square miles

Currency:
4 Pice = 1 Anna; 16 Annas = 1 Rupee

Population: India (356,891,624); Pakistan (75,842,165) (1951 census). *Density:* 288 per square mile. *Capital City of India:* Delhi (914,634). *Capital City of Pakistan:* Karachi (1,126,477). *Chief Towns:* Madras (1,430,000); Bombay (2,840,000); Calcutta (3,490,000); Lucknow (407,000); Allahabad (332,000); Lahore (849,000); Cawnpore (700,000); Naqqur (449,000); Peshawar (151,000); Dacca (273,000).

Communications:

Roads: 300,000 miles.
Railways: 42,953 miles (broad gauge 21,132 miles; metre gauge 17,644 miles; narrow gauge 4177 miles).

Mercantile Marine: app. 400,000 tons
Civil Aviation: 20,660 miles of internal services. There are also external services to the U.K., Africa and the East. Karachi is one of the world's main airports.

Chief Crops:

Rice; tea; millet; cotton; jute; wheat; oil seeds

Minerals:

Coal, iron, petroleum; salt; mica; gold.

Manufactures:

Textiles (cotton, jute and wool); iron and steel; engineering; paper.

Other Particulars:

Type of State: In 1947 India was split into two separate states, India and Pakistan. India comprises the former United Provinces, Bihar, Bombay, Central India, Orissa, Madras, Assam, parts of the Punjab and Bengal, and many of the old princely states, or groups of them, such as Rajasthan, Hyderabad, and Mysore. Pakistan comprises the other parts of Punjab and Bengal, Sind, Baluchistan and N.W. Frontier Province. Both India and Pakistan remain members of the Commonwealth.

Area:
735,268 square miles

INDONESIA

Currency:
100 Sen = 1 Rupiah

Population: 78,000,000 (1950 estimate). *Density:* 100 per square mile. *Capital City:* Jakarta (533,000). *Chief Towns:* Soerabaja (341,675); Semarang (217,796); Bandoeng (166,815) (all in Java); Palembang (109,000); Medan (76,584) (both in Sumatra); Macassar (84,855) (Celebes); Band Jermasin (68,698) (Borneo).

Communications:

Roads: 44,000 miles.
Railways: 4560 miles.

Chief Crops:

Rubber; tea; coffee; rice; tobacco; copra; sugar; corn; peanuts; cassava roots; sisal; chinchona; agave.

Industries:

Processing raw products for export; making tyres and soap.

Minerals:

Petroleum; tin; gold; copper; iodide; bauxite.

Other Particulars:

Type of State: The Republic of Indonesia is an independent state, a formal transfer of sovereignty from the Netherlands having been effected in 1949. It comprises four large islands (Java, Sumatra, Borneo, and Celebes) and innumerable smaller islands.

Area:
628,000 square miles

IRAN

Currency:
100 Dinars = 1 Rial

Population: 19,140,000 (1950 estimate). *Density:* 29 per square mile. *Capital City:* Teheran (990,000). *Chief Towns:* Hamadan (122,000); Ispahan (192,000); Meshed (191,000); Shiraz (114,000); Tabriz (272,000).

Communications:
Roads: mileage unknown.
Railways: 1,500 miles (approx.).

Chief Crops:
Wheat; barley; rice; cotton; jute; cane and beet sugar.

Minerals:
Petroleum.

Other Particulars:
Type of State: Kingdom.

Area:
170,000 square miles

IRAQ

Currency:
1000 Fils = 20 Dirhams = 5
Riyals = 1 Iraqi Dinar

Population: 5,100,000. *Density:* 30 per square mile. *Capital City:* Baghdad (552,000). *Chief Towns:* Basra (206,300); Mosul (340,500).

Communications:
Roads: 4550 miles.
Railways: 1027 miles.
Air Routes: Baghdad is an important stopping place for B.O.A.C. and other airlines.

Chief Crops:
Wheat; barley; dates; rice; cotton.

Minerals:
Petroleum.

Other Particulars:
Type of State: Kingdom. *Petroleum production* (1950): 6,457,000 tons.

Area:
8050 square miles

ISRAEL

Currency:
1000 Prutot = £1 Israeli

Population: 1,370,000 (1950 estimate, includes Jews and non-Jews). *Density:* 170 per square mile. *Capital City:* Jerusalem (155,300). *Chief Towns:* Haifa (145,000); Tel-Aviv/Jaffa (350,000).

Communications:
Roads: 1,350 miles.
Railways: 330 miles.
Air Routes: Lydda is an important airport for all the main international lines.

Chief Crops:
Citrus fruits; barley; durra; olives.

Minerals:
Bromine; potash; salt (all from the Dead Sea); gypsum; limestone; sandstone.

Industries:
Oil-refining; chemical and iron works; flour mills.

Other Particulars:
Type of State: Republic. Israel is an independent sovereign state established in 1948 by the partition of the 10,429 square miles formerly known as Palestine, the remainder going to Jordan and Egypt.

Area:
142,275 square miles

JAPAN

Currency:
100 Sen = 1 Yen

Population: 83,199,637 (1950 census). *Density:* 584 per square mile. *Capital City:* Tokyo (6,277,500). *Chief Towns:* Kobe (765,400); Kyoto (1,101,900); Nagoya (1,030,600); Osaka (1,956,000); Yokohama (951,200).

Communications:

Railways (State): 19,850 kilometres.
Railways (local): 7,800 kilometres.
Roads: 133,700 kilometres.
Mercantile Marine: 1,003 vessels of 1,728,000 tons (1950).

Chief Crops:

Rice; wheat; barley; tobacco; hemp; cotton; cane sugar; pyrethrum, peppermint; tea.

Minerals:

Coal; copper.

Other Particulars:

Type of State: Empire. *Area of islands in square kilometres:* Honshu 230,532; Shikoku 18,773; Kyushu 42,079; Hokkaido 88,775; Ryukyu 2,386. *Towns over 200,000 population 24.* *Urban population:* 32.7 per cent. *Tilled land:* 15.6 per cent of total area; *pasture land:* 8.5 per cent; *forest:* 53.8 per cent.

THE HASHIMITE KINGDOM OF JORDAN

Area:
34,750 square miles

Currency:
1000 Fils = 1 Dinar

Population: estimated at about 1,250,000 including 400,000 Palestine refugees. *Density:* 36 per square mile. *Capital City:* Amman (170,000).

Other Particulars:

Type of State: Kingdom. Became an independent state 1946; the name of the kingdom was changed from Transjordan to the Hashimite Kingdom of Jordan at the same time. Arab Palestine was formally incorporated in the kingdom in 1950. *Resources:* agricultural and pastoral products in fertile western part, eastern part largely desert. *Minerals:* potash.

Area:
85,266 miles

KOREA

Currency:
2450 Won = 1 U.S. dollar

Population: 29,500,000 (1950). *Capital City:* Seoul (South Korea), 1,141,760; Pyongyang (North Korea), 285,965. *Chief Towns:* Pusan (400,156); Taegu (269,113); Incheon (215,784). (Pre-civil war figures.)

Communications:

Roads: 15,490 miles.
Railways: 1,676 miles.

Chief Crops:

Rice; barley; wheat; beans; tobacco; cotton.

Minerals:

Coal; iron; gold.

Other Particulars:

Type of State: In 1945 the country was divided into two portions, separated by the 38th parallel of latitude. The northern portion came under the Soviet forces and the southern portion under the U.S. forces. War broke out between the North Koreans supported by Chinese forces and the South Koreans supported by United Nations forces in 1950 and continued until the truce of 1953.

Area:
50,680 square miles

MALAYA

Currency:
100 Cents = 1 Straits dollar

Population: 5,230,000 (1950 estimate). **Capital City:** Kuala Lumpur (176,000). **Other Towns:** Penang (164,500); Ipoh (90,800).

Communications:
Roads: 6000 miles (4500 metalled).
Railways: 1140 miles.

Chief Agricultural Products:
Rubber; copra; pineapples; rice; tapioca; sugar; pepper; timber; palm oil; resin.

Other Particulars:

Type of State: The Federation of Malaya comprises the nine states of Perak, Selangor, Negri Sembilan, Pahang, Johore, Kelantan, Kedah, Trengganu and Perlis, all under Malayan rule, and the two British Settlements of Penang and Malacca. Singapore, the third of the former Straits Settlements, is now a separate colony.

Area:
220 square miles

SINGAPORE

Currency:
100 Cents = 1 Straits dollar.

Population: 1,032,000 (1950 estimate). **Capital City:** Singapore (680,000).

Communications:
Roads: 288 miles (171 miles metalled).
Railways: One railway, from Singapore to Johore Bahru.

Other Particulars:

Type of State: Singapore became a separate Crown Colony on 1st April, 1946.

Area:
72,000 square miles

SYRIA

Currency:
100 Piastres = £1 Syr

Population: 3,252,700 (1950). **Capital City:** Damascus (335,000). **Other Towns:** Aleppo (362,500); Homs (244,000); Hama (146,500); Latakia (100,500).

Communications:
Roads: 4,350 miles.
Railways: 517 miles

Chief Agricultural Products:
Wheat; barley; cotton; tobacco.

Other Particulars:

Type of State: Independent Republic.

THAILAND (SIAM)

Area:
200,234 square miles

Currency:
100 Satangs = 1 Baht

Population: 18,313,000 (1950 estimate). **Density:** 90 per square mile. **Capital City:** Bangkok (1,117,000).

Communications:

Roads: 3736 miles.
Railways: 2032 miles.
Airways: Internal routes: 2200 miles.
There are also regular services to neighbouring countries.

Chief Crops:

Rice; corn; sesame; peas; cotton; tobacco; pepper; rubber.

Minerals:

Iron; wolfram

Other Particulars:

Type of State: Kingdom

Area:
470,000 square miles

TIBET

Currency:
4 Sangs = 1 Indian rupee

Population: estimated at about 3,000,000 **Capital City:** Lhasa.

Other Particulars:

Tibet was until 1951 ruled by the Dalai Lama, but in that year, following invasion by Chinese forces, Tibet became in effect an integral part of the Chinese People's Republic.

Area:
296,300 square miles

TURKEY

Currency:
100 Piastres = £1 Turkish

Population: 20,936,500 (1950). **Density:** 70 per square mile. **Capital City:** Ankara (286,592). **Chief Towns:** Seyhan (Adana) (118,000); Bursa (Brusa) (100,000); Istanbul (1,179,000 with suburbs); Izmir (Smyrna) (230,500).

Communications:

Roads: 14,000 miles.
Railways: 4,750 miles.
Mercantile Marine: Gross tonnage 500,000.

Chief Agricultural Products:

Wheat; barley; corn; oats; tobacco; olive oil; raisins; figs; cotton; wool; mohair.

Minerals:

Coal; lignite; emery; chrome; boracite; antimony; magnesite; manganese; kaolin; mercury.

Industries:

Flour milling; sugar refining; olive oil refining; tanning and the manufacture of soap; cement; cotton; silk and woollen goods.

Other Particulars:

Type of State: Republic. *Area in Europe:* 9250 square miles; in Asia, 287,050 square miles.

Area:
Not yet determined
Approx. 8,700,000
square miles

UNION OF SOVIET SOCIALIST REPUBLICS

(INCLUDING THE U.S.S.R. IN EUROPE)

Currency:
1000 Copecks = 10
Roubles = 1
Chernovetz

AREA AND POPULATION BY REPUBLICS

Republic	Area	Population
	Square Miles	
Armenian Soviet Socialist Republic	11,600	1,282,000
Azerbaijan	33,500	3,210,000
Estonia	18,000	1,131,000
Georgian	29,000	3,540,000
Karelo-Finnish	70,000	470,000
Kazak	1,073,000	6,146,000
Kirghiz	77,000	1,500,000
Latvia	25,000	1,971,000
Lithuania	25,500	2,880,000
Moldavia	13,000	2,200,000
Russian Soviet Federated Socialist Republic	6,610,000	109,280,000
Tadzhik Soviet Socialist Republic	55,700	1,485,000
Turkmen	189,000	1,254,000
Ukrainian	225,000	40,000,000
Uzbek	159,000	6,300,000
White Russian	81,000	10,386,000
Total	8,695,300	193,035,000*

* The population figures are based on the last known census (Jan., 1939). It was estimated that by 1950 the total had increased to over 200 millions.

Towns:

Federal Capital and Capital of the R.S.F.S.R.: Moscow (4,137,018). *Capitals of the Constituent Republics:* Erivan (Armenia) (200,000); Baku (Azerbaijan) (809,347); Tallinn (Estonia) (146,388); Tbilisi (Georgia) (519,175); Alma Ata (Kazak) (230,000); Petrozavodsk (Karelo Finnish S.S.R.) (80,000); Frunze (Kirghiz) (92,500); Riga (Latvia) (393,000); Vilna (Lithuania) (209,400); Kishinev (Moldavia) (120,000); Stalinabad (Tadzhik) (82,500); Ashkhabad (Turkmen) (126,600); Kiev (Ukraine) (846,293); Tashkent (Uzbek) (585,005); Minsk (White Russia) (240,000). *Other Large Towns:* Leningrad (3,191,304); Gorki (650,000); Odessa (604,223); Rostov-on-Don (510,000); Stalingrad (445,476). (Latest available figures: 1939 census.)

Communications:

Railway mileage: 69,400.
Road mileage: app. 2,500,000.
Inland waterways (navigable): app. 100,000 miles.
Mercantile Marine (1947): 1065 vessels, 2,272,163 gross tons.
Air lines (within the U.S.S.R., 1948): 139,000 miles.

Chief Agricultural Crops:

Wheat; oats; barley; millet; potatoes; maize; buckwheat.

Chief Industrial Crops:

Cotton; flax; hemp; sugar beet; tobacco; sunflower seed; tea; makharka.

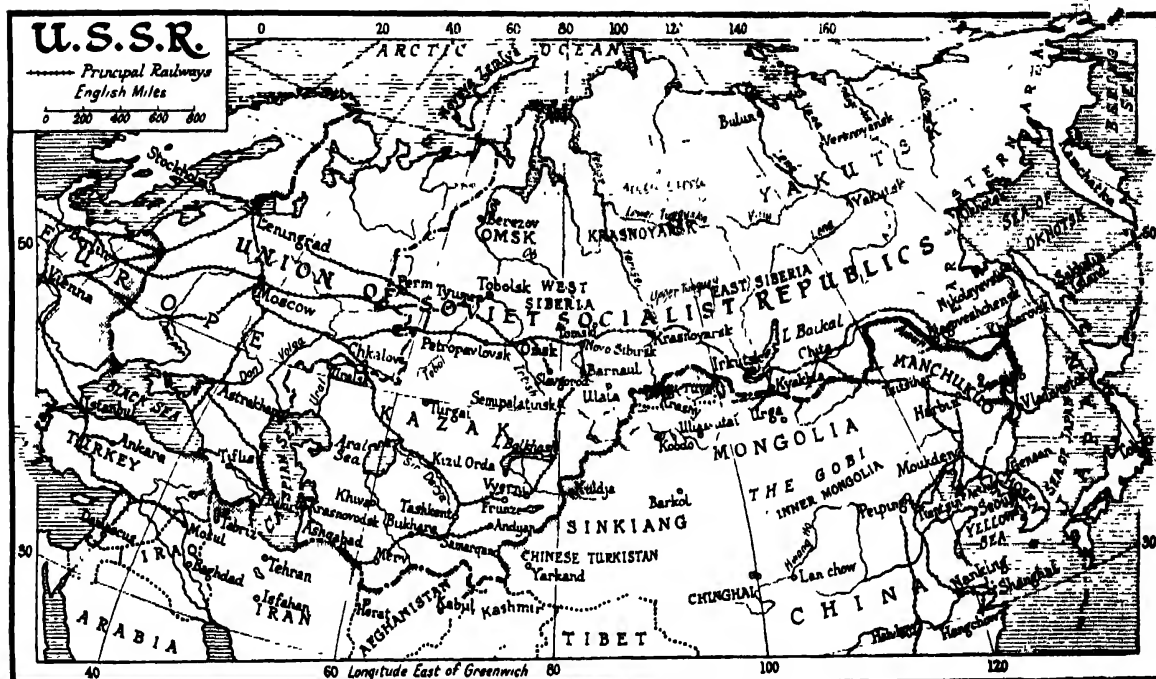
Minerals:

Coal; iron; manganese; copper; mica; petroleum.

Other Particulars:

Type of State: A Socialist state of workers and peasants confederating sixteen republics. *Urban population:* 33 per cent of total; *rural,* 67 per cent. *Arable land:* 9 per cent of total; *pasture:* 11 per cent; *grassland,* 2 per cent; *non-agricultural,* 31 per cent; *forest,* over 40 per cent; *garden and orchard,* 0.5 per cent. *Chief industries:* coal-mining; iron and steel; textiles; machine-building.

THE UNION OF SOVIET SOCIALIST REPUBLICS



ALTERNATIVE PLACE NAME SPELLINGS

Ankara = Angora; Moskow = Moskva; Samarqand = Samarkand; Tokio = Tokyo; Vienna = Wien

THE two continents over which the great Russian plain extends are, as we know, Europe and Asia; and although the demarcation between the continents is, even from the point of view of physical geography, largely arbitrary, and is in fact ignored by contemporary political boundaries within the Union of Soviet Socialist Republics, it is easier to grasp the main lines of Russian geography if some division is made, and European and Asiatic Russia are considered separately. The dividing line which is traditionally taken to mark the point at which Europe passes over into Asia is, in the north, the Ural Mountains, and, in the south, the Caspian Sea and lower reaches of the Ural River.

The resemblance between western Siberia and eastern Europe is greater than that between eastern and western Europe. As we move across two continents, from the Atlantic sea-

board of Europe to the Pacific seaboard of northern Asia, a convenient geographical boundary is the Vistula River. Here eastern Europe—the Russian Platform—can be said to begin. Before the World War of 1914-18, the whole of this area was comprised politically within the boundaries of the Russian Empire. To-day, now that Poland and Finland are independent states, the correspondence is not exact although since 1945 Russia has done her best to regain these territories, pushing her frontiers west again to the Baltic and the Curzon line, and annexing Bessarabia.

Moving again eastward from that frontier, we come, after traversing more than 1500 miles, to the Ural Mountains and the Caspian Sea, which we have already decided to regard as marking the limit of Europe and the threshold of Asia. The arbitrary nature of this boundary must nevertheless be made clear.

The Russian lands to the east and west of the Urals are, in many respects, similar. Both exhibit the same type of soil and vegetation. The traveller, upon passing the Urals, feels no abrupt change of climate. For the Urals, unlike the Caucasus Mountains in the south, do not constitute a formidable physical barrier. Though the highest peaks of the Ural chain overtop the Caucasus, the latter range is a climatic divide; while the former, owing to its generally low altitude and gentle slopes, presents little obstacle to the winds which come

and homogeneity of European Russia is another reason for our treating this conventional subdivision separately from the Asiatic Republics on the one hand, and the Siberian territories of the Russian Soviet Federated Socialist Republic (R.S.F.S.R.), that form Russia's "Wild East" on the other.

The Russian Plain. Let us then try to construct a mental picture of the Russian European plain. Roughly rectangular in shape, its wide expanse is bounded by mountains and seas. In the north it stretches from the Finnish



A KOLKHOS WEDDING

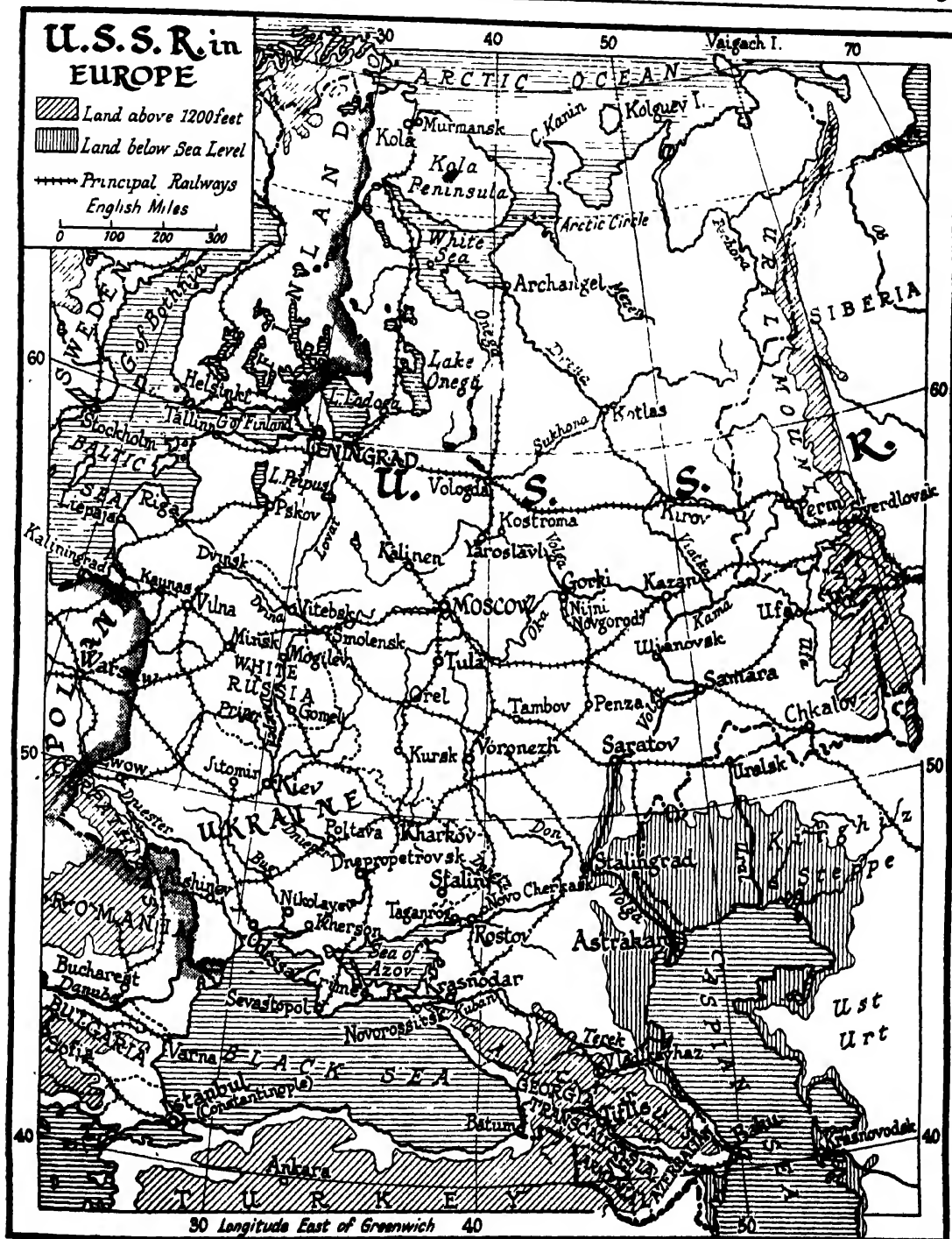
Teams of three horses carrying the wedding party through the snow

sweeping from the cold regions of northern Asia across the Siberian plain to European Russia. Nor did the Urals present much of an obstacle to the migrations of peoples in the past. To-day they are crossed by three railway lines. Moreover, between the point at which the Urals taper off to the south, and the northern shores of the Caspian Sea, there is a level gap some 300 miles across—a gap through which the hordes of central Asia have often passed on their migratory marches into the great European plains.

The arbitrary but useful character of the division of the U.S.S.R. into European and Asiatic Russia is now clear. The vast extent of the country is one reason for our considering its geographical features in terms of conventionally accepted regions: the shape, definition

highlands and the Arctic shores of the White Sea to, in the south, the Caucasus Mountains and the Mediterranean beaches of the Black Sea. It lies between the Carpathian Mountains and the Baltic Sea in the west and the Ural Mountains and the Caspian Sea in the east. The great plain extends some 1600 miles in either direction. Nor is the word "plain" out of place. At no point does the land lie higher than 450 metres above sea-level. The traveller crossing the plain from Kaunas to the Urals by rail will find no single tunnel on the line; no mountains rise up to break the monotony of the level land.

Over this immense area flow some of Europe's largest rivers. They take their rise from quite modest altitudes (the Dnieper, 253 metres; the Volga, 228 metres), but the flat plain



THE EUROPEAN SOVIET SOCIALIST REPUBLICS

The Ural Mountains form the natural boundary between European and Asiatic Russia

ALTERNATIVE PLACE NAME SPELLINGS

Ankara - Angora; Bucharest - Bucuresti; Moscow - Moskva; Sofia - Sofiya; Warsaw - Warszawa

favours long courses and encourages windings and twistings to an unusual degree. These great rivers have played, from earliest times, in Russian history and in the country's economic life, a major role. They were the paths along which the arts of civilization advanced to conquer and enslave the savage and the barbarian. The means of communication which they provided to some extent mitigated the problem of sheer "distance" presented to the centralizing governments that tried to bring beneath their sway the immense Russian plain. They served to bind the country into a closer unity; and when the Urals were crossed, and the Slavic penetration of Siberia began, it was again along the banks of the great rivers of northern Asia, the Ob, the Yenisei and the Lena, that the trading posts and settlements grew up.

The winding and twisting course of the typical Russian river incidentally leads to the result that rivers flowing into different seas often pass within a narrow distance of each other. This fact is of the greatest importance, as it facilitates the construction of canals linking together the different sections of Russia's enormous system of inland waterways.

The picture of the Russian lands west of the Urals is now beginning to take shape. We can imagine the great plain, bounded by mountains and seas, intersected by winding rivers, flat and monotonous to the view, the horizons in every direction distant and low. As a picture, however, it is far from complete. Something must be said of the soil belts and regions of vegetation into which the country is divided; of the climate, of the forces that determine its nature and of its influence on the ways of life of the people; and lastly, of the people themselves, of the different races, languages, and customs that go to make up the bizarre variety and many-coloured individuality of the contemporary Soviet scene.

Soil and Vegetation Zones. It is inevitable that we should find great varieties, both of soil and of vegetation, over an area as large as that of European Russia; and we are, in fact, able, as we pass from the extreme north to the extreme south of the country, to distinguish certain clearly-marked zones. First we find, stretching from the shores of the Arctic Ocean, a region of tundra. The sub-soil is perpetually frozen, and there is an absence of wooded vegetation. To this succeeds a zone, covering two-fifths of the surface of European Russia, of mixed forests and marshy

swamp. In the wooded regions conifers predominate. Between this "*podzol*" zone and the "*chernozem*," or "black soil" area, that lies mainly to the south-west, we find a transitional, "grey soil" belt of no great width. Here the forests are thinning out and gradually disappearing. This partially-wooded steppe, in contrast to the "*podzol*" region, where the land is only of mediocre agricultural value, is useful arable land.

Black earth is the typical soil of the grassland steppes, and the black earth region that now follows, so-called on account of the dark colouring which vegetal decomposition has given to the soil, is the most fertile in Russia. It extends, moreover, from the south-western frontier of the Ukraine, right across European Russia to the Ob basin in Siberia, and beyond, well into eastern Asia, lying in a narrow strip north and south of the Trans-Siberian route. The highly productive black earth belt is also, as we might expect in a country which is still predominantly agricultural, the main axis of population, where the highest densities are to be found. Finally we come, in Russia's "Deep South," to a belt of dry, uncultivated steppe, which, originating by the European shores of the Caspian, follows a wide, northward and eastward sweep round that inland sea, taking in the lower Volga region between Astrakhan and Stalingrad, and moving ever eastward to the Kirghizian steppe, north of the Aral Sea and Lake Balkhash, to join the central Asiatic deserts.

Climate. Of all the countries of Europe, Russia can show the greatest extremes of temperature. The January isotherms have a general north-south tendency, assuming, as we move eastward, a north-west to south-east direction. Differences of latitude, that is, do not involve great differences of temperature; but the cold increases as we move away from the western frontier towards Siberia. The July isotherms have a general west-east direction (or, more correctly, south-west-north-east direction). But even so, we can find, during the summer, Soviet districts lying as far north as the north of Scotland where water-melons are being cultivated. We may even come across potatoes as a summer crop far within the Arctic Circle.

Contrasts in climate over so enormous an area would be still greater but for certain factors. In the first place, the level plain, particularly those parts which are little or hardly at all wooded, offers no obstacle to the



RUSSIAN SCENES

1. Harvest time. 2. A scene from a collective farm carnival. Farmers are dressed in costumes representing the old Russian saying, "One with a plough and seven with a spoon." 3. A cotton stem removing machine which is attached directly to a tractor and used extensively in the cotton harvest. 4. A field kitchen in the harvest field. 5. Tobacco pickers on a Crimean collective farm. 6. An ensemble of folk instruments at the Uzbek State Philharmonic Festival. 7. On the Volga. 8. The timber industry of southern Russia. 9. People of Daghestan in national costume at a country fair.

Photos: From "Russia Today"

free passage of winds. In the winter the climatic contrast between north and south is diminished by reason of the fact that, while cold east winds are dominating the warmer south, the colder north is visited by warm winds coming from the west. In the summer, when mild westerly winds prevail over the whole of Russia, the climatic contrast between the higher and lower latitudes becomes more pronounced; though the gap between northern

though almost the entire country in winter is covered by snow, the duration of the snow-cover varies considerably in different districts. North and east of a line passing (approximately) through Olonets, Kostroma, Gorki, Oufa and Orenburg, the average length of time during which the ground is covered exceeds 160 days. Within a middle zone, lying broadly on either side of a line joining Lenin-grad, Moskva, Riazan and Stavropol, in the



SOVIET ARMENIA

A view of the fruit orchards near Erivan, capital of Soviet Armenia, representing a flourishing rural industry

and southern temperatures is again diminished, owing to the fact that the Sun, in the northern latitudes, remains for a longer time each day in the heavens, warming the Earth.

Both the daily life of the Russian people, and the social pattern of Soviet life, are intimately bound up with the extremes exhibited by the Russian climate.

Snow-cover and the Rivers. The definite setting-in of winter is marked by constantly low temperatures, by the arrival of the seasonal snow-cover, and by increasingly violent wind storms. When we picture Russia to ourselves it is always a winter rather than a summer landscape that we imagine. But,

Caucasus, its average duration is between 120 and 160 days. South and west of a line drawn from the point at which the Gulf of Finland joins the Baltic Sea, passing between Minsk and Smolensk, and about a hundred miles south of Orel and Saratov, the snow remains on the average for less than 120 days.

The snow-cover, heaviest between January and March, is of great importance for two reasons. It protects the ground in winter, preserving, to some extent, the soil's heat during the cold temperatures. In the second place, and more important, it provides the rivers with their water supply.

Russia is a country of slight rainfall, the

eastern half of European Russia having less than twenty inches in the year, and, although the major portion of this limited amount falls in the summer months, the river levels drop very rapidly during that season. It is from the melting snow that their water is mainly derived. Of the annual flow of the Moskva River, for example, 75 per cent goes past in one month!

Life in Winter. It has usually been assumed in Russia that the extreme cold prohibited the carrying on of productive labour on any large scale during the winter. This is, in fact, not the case; for although until 1929 no construction work of any consequence had been attempted during the four or five coldest months, to-day it has been shown that steel erection, carpentry, sheet metal and other work can be quite successfully carried out, even under the most adverse climatic conditions.

But though some of the limitations imposed by winter conditions are being successfully countered, these conditions still remain a significant factor in determining the mode of both rural and urban life throughout a third of the year. The intense cold and deep snow both isolate the village and unify the land. The frozen rivers become swift lines of communication. The great fairs of the Ukraine, attracting thousands of merchants from all parts of the country, were held during the late winter; that of Kharkov in January and the Kiev fair in February.

In the rural districts, the local population, increased for the winter by the addition of migratory workers from the towns, and owing to the enforced stoppage of certain employments, seek refuge from the bitter weather in their low-built and insanitary *izbas*. The *izba*, or peasant hut, warmed in the old days by a straw- or wood-burning stove which filled the hut with acrid smoke, was the focus of rural winter life.

The atmosphere of these huts, where a family of human beings lived and breathed, whose population often included domestic animals, was infinitely worsened by the smoke for which a small door provided inadequate outlet. Wide-spread lung disease and early-failing eyesight were part of the price paid for these conditions. Mortality, too, rose to its peak during the winter months of forced seclusion. The re-housing of the peasant and the electrification of the village, the social life developed by the village Soviet and collective farm, the provision of club-houses and travelling libraries and cinematographs, are ways in which the

face of the Russian village and the life of its people are being transformed.

The end of the winter is also marked by sudden rises and falls of temperature. A number of "false springs"—warm, sunny days, unexpectedly followed by violent snowstorms—precede the arrival of the summer. The date at which the river ice begins to break up and melt can never be exactly predicted. But though a movable feast, the official "opening



A SCENE IN ARMENIA

The Zange River in the Armenian Republic, with Mount Ararat in the distance

of the river" cannot be other than a period of festival in Russia. The volume of river water, increased by the melting snow, attains the proportions of a spring flood. The logs begin to float downstream from the timber country.

Sand-laden Winds. One of the most interesting and troublesome features of the Russian summer is the sand-laden winds that blow intermittently from the dry steppes of the south-east. The scorching air of the desert carries a cargo of dust from the top-soil of the sandy steppes sometimes as far as Leningrad and Finland. For the south, the Caspian Sea acts as a protective barrier. The desert



A MOUNTAIN ROAD IN TADZHIKISTAN

air is cooled on its passage over the water, and absorbs moisture. North of the Caspian Sea, the dry hot air passes with no obstacle to overcome, through the Ural-Caspian gap, to afflict with its sand-burden all that fertile agricultural land lying between the Volga and the Don steppes. The Middle and Lower Volga regions have seen nineteen drought years in three decades. Anti-drought measures have recently been taken in hand.

A Verbal Map. To complete our account of the European parts of the U.S.S.R., let us try to sketch in, as rapidly as possible, a map of the country. (It must be added that a verbal map can only be fully intelligible if a pictorial map is consulted with it.) We may take as our point of departure the centrally-situated city of Moskva (Moscow), capital both of the federation of republics known as the U.S.S.R., and of the Russian Socialist Federal Soviet Republic, the largest constituent member of the Union. In the extreme south of the Moskva Province the River Don rises, and, after flowing southward through the Central Black Soil Area (the Provinces of Kursk and Voronezh), bends east towards the Volga (near Stalingrad) and then, describing a wide sweep, resumes a south-westerly direction as it flows down to the Black Sea. East of Moskva Province lies Ivanovo Industrial Area. Here ploughed fields

at first alternate with wooded stretches and then finally give way to the dense coniferous forests that constitute the northern *täiga*. This coniferous forest land runs north and east of a line connecting Leningrad, Kalinin (Tver), Jaroslavl, and Gorki, and embraces a great part of Gorki Province and the whole of the Northern Province (including the Komi Autonomous Area). North of Leningrad, and marching with the Finnish frontier, is the Karelo-Finnish Republic, through whose southern countryside the White Sea-Baltic Canal now runs.

Centre of Collective Farming. The mixed coniferous and deciduous forest zone that surrounds Moskva gives way, as we go south, to the almost treeless plain of the Black Soil Area, the Provinces of Kursk, Voronezh, Kuibishev, and Saratov. Here is the main centre of collectivized and mechanized large-scale agriculture. West of Moskva Province, sharing its frontier with Poland, is the Republic of White Russia (Byelorussia). The White Russians—their name may be a Slav equivalent of the expression “pale-faces,” or may derive from the white clothes customarily worn by them—are ethnically, in spite of their subjection for long periods to Lithuanians and Poles, the best-preserved group of the old historic Russian stock; and their language, which both resembles and differs from the Great Russian tongue, seems to be directly descended from that of the Krivitches of Old Russia.

The Ukraine. Adjoining the White Russian Republic and south of it, is another constituent republic of the U.S.S.R., the Ukraine, the country of the “Little Russians.” Gently rising and falling downland is characteristic of the Ukrainian steppe. The predominant colouring of the landscape changes from vivid green in the spring and early summer to autumn browns and winter white. The shirts of the men and dresses of the women are more highly decorated and colourful than those seen in White Russia. The Republic of the Ukraine—the word means “border”—adjoins the Polish and Romanian frontiers and has historically served as a European bulwark against the Tatars and Turks. The Dniester, marking the former Bessarabian frontier, is one of the oldest trade routes of Europe. The Ukraine does not extend far east of Kharkov or far north of Kiev, the old capital of Russia and present capital of the Ukraine.

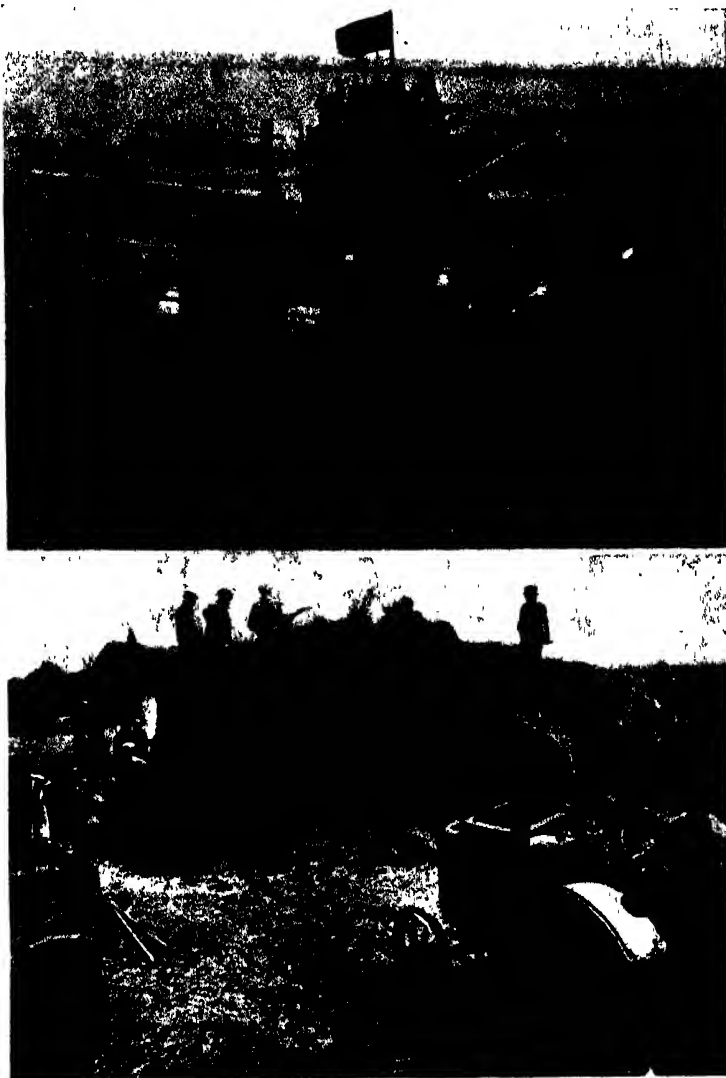
The Ukraine is by no means an agricultural country only, as its typical landscape with few

trees and many windmills and its innumerable long straggling villages would suggest. The Dnieper Industrial Combine, based on the cheap power of the Dnieperstroy hydro-electric power plant, is one of the largest in the Union. The Ukraine also includes, in the Donetsk coal basin, one of the Soviet Union's largest coal bases.

To the south is the Crimean Region of the R.S.F.S.R., whose southern coast, facing the Black Sea, is the Riviera of the Soviet Union. Here, amid the cypresses and vineyards are the great recreation centres, sanatoria, and rest homes maintained by the State, or by the trade unions and political organizations.

Again setting our course south and east, we arrive at the Azov-Black Sea and North Caucasian Regions of the R.S.F.S.R., the capital cities of which are respectively Rostov-on-Don and Piatigorsk. The southern boundary of the north Caucasian plain is formed by the snow-topped Caucasus Mountains, to the south of which lie three more constituent republics of the U.S.S.R.: Georgia, Armenia, and Azerbaijan. From Vladikavkas, on the European side of the Caucasus, the famous Georgian Military Highroad crosses the mountains to sub-tropical Georgia and its capital, Tbilisi. On the Caspian shore stands Baku, capital of Azerbaijan and oil-metropolis of the Union. To the south, Erivan, the capital of Soviet Armenia, faces Mount Ararat and the frontier of Turkey.

The Volga. North of Azerbaijan and lying on the western shore of the Caspian Sea is the autonomous Daghestan Republic and the Astrakhan Region, the latter reaching as far east as the line Stalingrad-Astrakhan. The Volga River, which flows into the Caspian Sea at Astrakhan, rises in the Kalinin Province, between White Russia and Moskva Province. It flows in a generally eastward direction through Moskva, Ivanovo, and Gorki Pro-



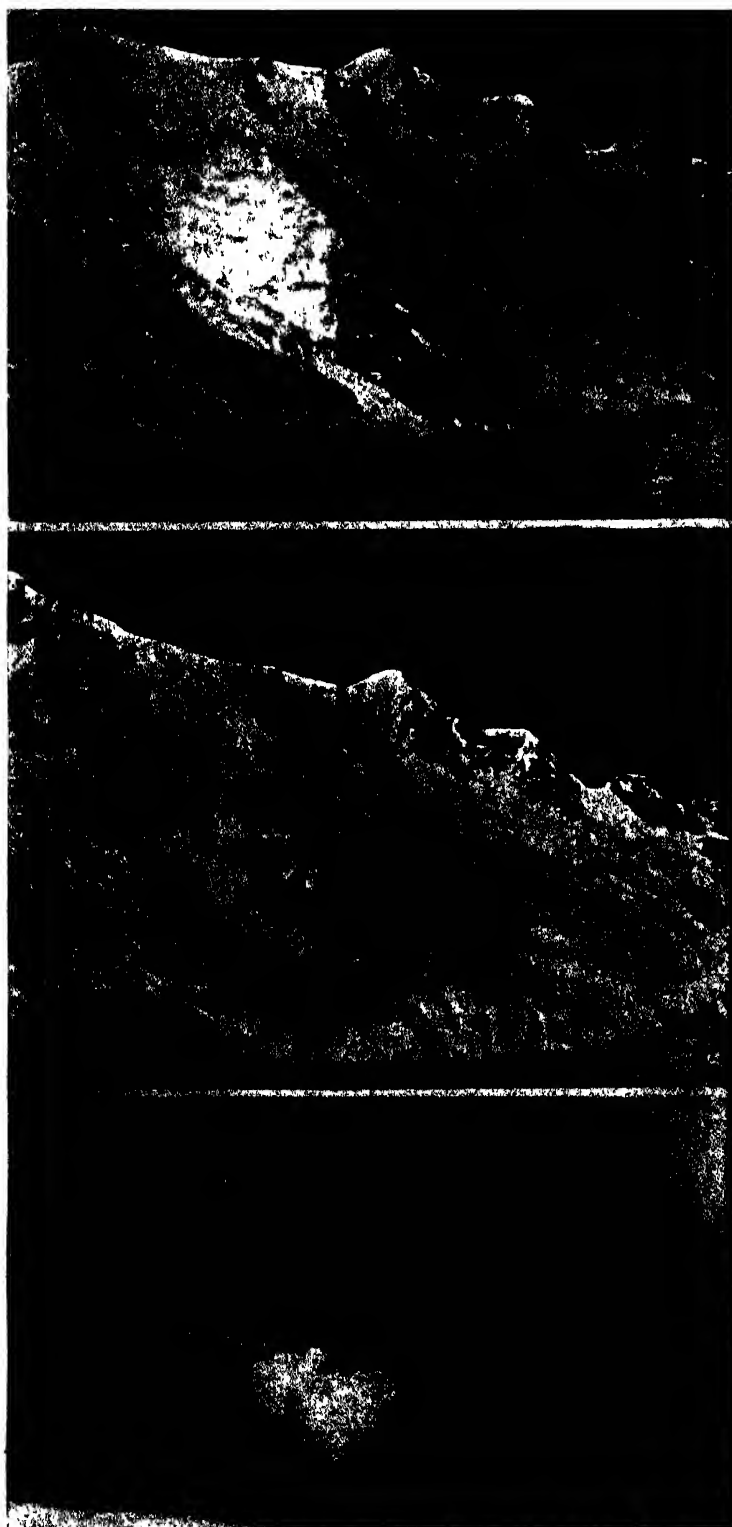
MECHANIZED AGRICULTURE

Above. Reaping the harvest on a State grain farm in Odessa Province. *Below.* Threshing on a collective farm in the Middle Volga

vinces, and then turns south, with the Chuvash Autonomous Republic lying inside the bend of the Tatars bordering the outside of the curve.

The river's course is now generally southward to Stalingrad, scene of the historic siege during the Second World War, where it again turns south-east to flow down to the sea.

The U.S.S.R. in Asia. Our verbal map of European Russia is now complete; but political boundaries in the U.S.S.R. ignore the arbitrary geographical frontier between Europe and Asia. To carry the story further it is necessary to cross the Urals and to enter Siberia. This enormous territory, measuring 5000 miles from



AN AVALANCHE IN THE CAUCASUS MOUNTAINS
The falling rocks and snow swiftly increase in bulk and momentum
Photos: Wide World

east to west and 2300 miles from north to south, possesses immense mineral wealth and is, in spite of the short summers, a country of rich agricultural possibilities. A simplified view of its geographical structure can be obtained if we think of it as divided into three great regions, corresponding to the river basins of the Ob, the Lena, and the Amur. Immediately east of the Urals is the West Siberian Plain. This enormous lowland tract of forest and marshland lies between the Ob and Yenisei Rivers and runs north and west of a line drawn through Semipalatinsk, Tomsk, and Yeniseisk. This was the region earliest penetrated by the Great Russian traders and missionaries who explored the country in the seventeenth century, using the Ob, Irtysh, and Yenisei river systems as their lines of communication. To-day this area is comprised in the Omsk and West Siberian Regions of the R.S.F.S.R.

South of these regions, along the line of the Trans-Siberian Railway, the black earth belt extends as far as and beyond Lake Baikal. The construction of the 1400 kilometre Turksib Railway, following the old caravan route to Tashkent, now brings Siberian wheat to central Asia, setting the Turkestan fields free to grow the cotton which the Soviet textile industry needs and which cannot be grown elsewhere.

Centre of Industry. In the region of the southern Urals lie the Provinces of Sverdlovsk, Chelyabinsk, and Chkalov, the scene of one of the most gigantic industrialization projects in the whole of the Union. New power stations rose suddenly from the steppes; blast furnaces of the Magnitogorsk metallurgical combine came into operation; iron foundries were built;

chemical, machine-building and other industries soon developed. The Kuznetsk coal basin, in the longitude of Tomsk and just south of the Trans-Siberian Railway, is now closely linked with the heavy industries and mineral resources which have been developed in the southern Urals. The Kuznetsk area is, moreover, supposed to possess some 450 billion tons of coal—a coal reserve six times as great as that contained within the Ukrainian Donbass.

South of the West Siberian Plain we come to the Irtysh steppes. These uplands, from which the rivers of the plain descend on their long and winding journey to the northern sea, are peopled by the nomadic Kirghizes. The uplands rise towards the extreme south-east and, in the region of the Pamirs, the "roof of the world," meet the frontier of Chinese Turkestan. This territory is now comprised in the Union Republic of Kazakstan; while in the extreme south of the U.S.S.R. are the Turkmen, Uzbek, Tadzhik, and Kirghiz Republics, all of them constituent republics of the Union.

Changing Life in the Asian Republics.

These Asian republics, stretching from the Caspian to the Chinese frontier, and bounded on the south by Kashmir, Afghanistan and Iran, are to-day undergoing great changes. Though they still remain strongholds of Islam, an immemorial way of life, unchanged since the days of Tamerlane or even of Alexander, is being uprooted. In historic Samarkand and in the holy city of Bokhara the century-old mosques and palaces are now confronted by modern buildings, museums, agricultural research stations, clubs, and cinemas. Old Arabic scripts have been Latinized and languages hitherto existing only in spoken form have been written down for the first time. In Kirghizia the national epic, "Manas," a traditional poem of some 200,000 verses, portraying the centuries of war which the nomad Kirghizes have waged against Chinese and Mongolian invaders, has been thus recorded. New literatures are, in this way, being born.

Reversing the order of the west, the aeroplane has pioneered and has been followed by the railway. Modern agricultural methods, tractors, harvesters and drills, are replacing the older methods, typified by the wooden plough. The nomadic Kirghizes are gradually becoming settled agriculturists. The mountain pastures of the rich highlands now boast immense cattle farms, and cotton and fibre crops are beginning to cover the lower country.

In Tadzhikistan, the most easterly of the new republics, where civil war raged until as late as 1931, great changes are also to be seen. The camel and donkey remain the principal means of communication, though the railway has also made its appearance. The medicine-man has been ousted by the trained doctor, who is more likely than not to be a graduate of the Tadzhik University. There is even a film studio to-day in the capital, Stalinabad. This modern city, unrecognizable as the primitive village of Dyushanbey that occupied the site only a few decades ago, is well lighted by electricity and possesses a central water system.

Uzbekistan, lying south of the Aral Sea and west of the Amu Darya River (the Oxus), is also being transformed. Illiteracy is being abolished. To-day 60 per cent of the population are able to read and write, and about 200 newspapers, the majority published in the Uzbek language, circulate throughout the country. Uzbekistan is to-day less famous for its bandits than for its cotton, rice, and lucerne.

Away from the new cities and the industrial settlements, in places where the railway has not yet brought western ideas and technique, the traditional ways still prevail. The *yurt*, or tent, constructed of thick layers of felt, and the enduring mud houses, stand as they stood in the days of Timur the Lame. The mud houses of the Uzbeks and Turkmens are simply made and practical. It is difficult to fire bricks as fuel is lacking, and timber is also scarce. The wet mud is shaped into bricks in a wooden mould, and hardened in the sun. Untrimmed branches of silver poplar support the thick roof, the mud of which is strengthened by being mixed with finely-chopped straw. A high rectangular wall surrounds the house and the water tank. The apartments have within usually only one opening, a combination door and window. Felts and carpets cover the floor, in the centre of which is a hollowed out patch containing a charcoal fire, the smoke being carried off through a hole in the middle of the roof. In these isolated districts the whole wants of the people are supplied by their horses, camels, and donkeys. Mares' milk, poured into sheepskins and tossed to and fro till it ferments (*koumiss*), is one of the staple foods of the Turkestan nomads.

A Land of Coal and Cattle. Kazakstan, through which flows the ancient Jaxartes (the Syr Darya), is not only a country of horsemen and cattle breeders. It contains also the Karaganda coal-fields and the great Jezkazgan

copper mines. The Altai Mountains are also extremely rich in minerals, and their exploitation is having far-reaching effects on the country's economy and on the life of the people. Here, as elsewhere in Soviet Asia, one of the most striking changes is that which has taken place in the status of women. Segregation, and the wearing of the veil, are both disappearing, and women workers are active in industry and on the collective farms, 150,000 being employed to-day in industry alone.

Siberia. Central Siberia, between the Yenisei and Lena Rivers, divides into several well-marked zones. The first of these is the North Siberian Plain, which lies along the shores of the Arctic Ocean. To this succeeds, in the south, the Middle Siberian Plateau which, farther south again, merges into the central Asiatic highlands, encircling Lake Baikal. Administratively, this enormous expanse of *tāiga* is distributed between the Western Siberian and East Siberian Regions, the Autonomous Republic of the Buriat-Mongols, and the Yakutsk Republic.

Eastern Siberia, stretching across to the Pacific, is largely, in the north, a still unexplored country. It was not until 1926, when a Soviet expedition led by Professor Obrouchev charted the mountain ranges and river courses, that maps that were mainly guesswork could be superseded by maps that were, in part at least, based upon observation. The southern half of Eastern Siberia, the area served by the Trans-Siberian Railway, is the more highly developed. Stretches of agricultural land alternate with industrial towns.

Our journey across the northern orient finally brings us to the Amur basin and to the Pacific.

In this monsoon country the rice fields are spread wide over the level plain. Here, in the Jewish Autonomous Region, the tiger has yet to be exterminated. We come at last, in the extreme south of the Far Eastern Province, to the terminus of the longest railway in the world, Vladivostok, appropriately so named, for the word, in the Russian tongue, signifies "the key to the East."

The Cities of Russia

MOSKVA (Moscow), the capital of modern Russia, with a population of upwards of 4,000,000, is the sixth largest city in the world. The extent of its growth in recent times is indicated by the fact that the city's population between the years 1919 and 1939 was more than doubled. Almost the entire population of the city is engaged in productive work, for Moskva has no unemployed.

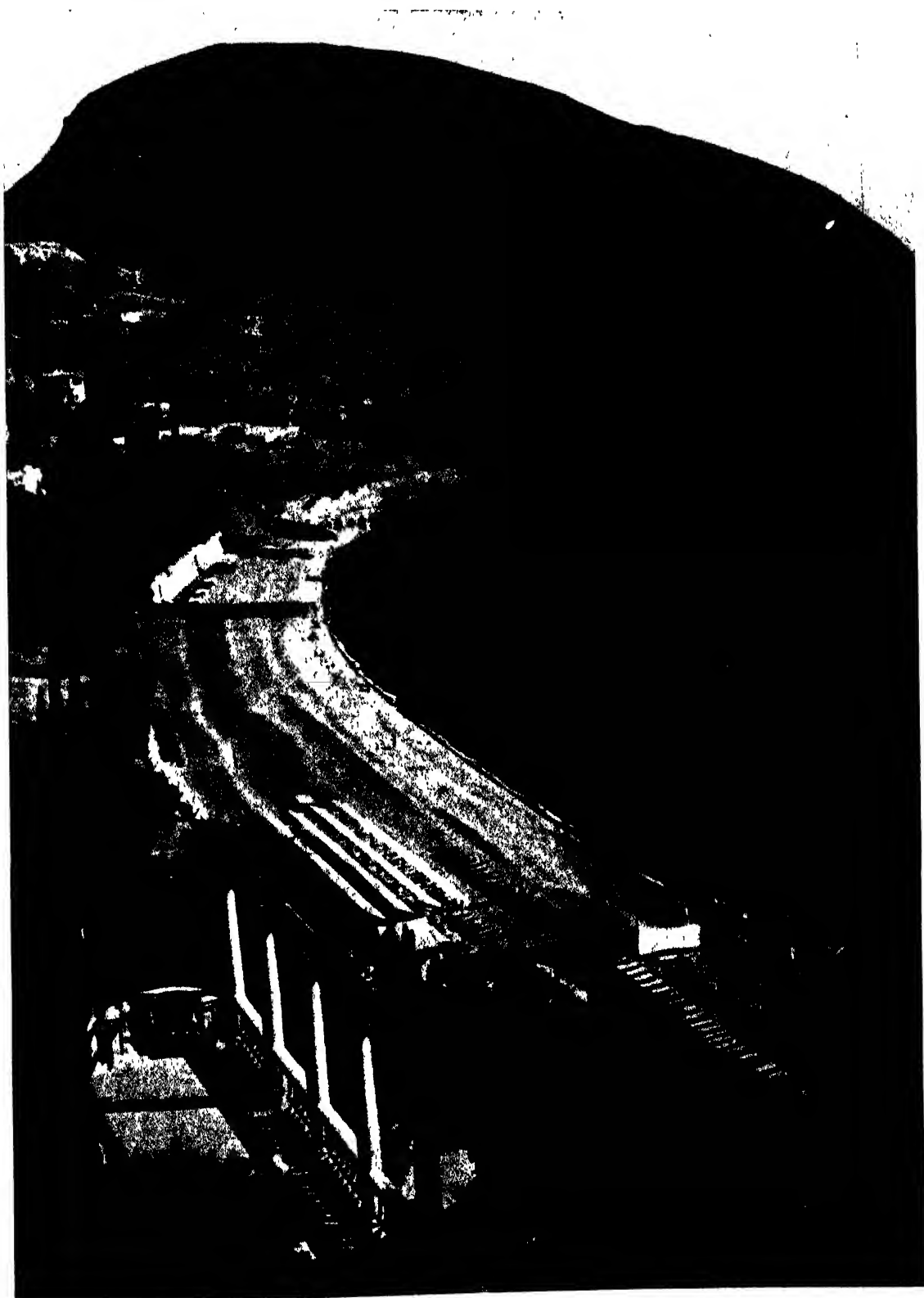
Interesting to the foreign visitor is the fact that nearly half the total number of workers and employees in Moskva are women, a reflection of the legal position of Soviet women, who are accorded equal rights with men in all spheres of life. Another distinguishing feature is the large number of students, numbering nearly 1,000,000.

Moskva was a centre of industry in Tsarist times, but its industrial character has changed during the Soviet period. Large-scale industry, the output of which represents nearly 15 per cent of the total industrial output of the U.S.S.R., has been highly developed. The city is 800 years old, and its architecture and plan are a reflection of its past. The famous Kremlin, which is now the seat of the Govern-

ment, was begun in the thirteenth century. The earliest architectural monuments of old Moskva that exist, the two churches of the Kremlin, belong to the fifteenth century. Since then, various styles have had passing prominence, including the extraordinary and independent period of Moscow baroque in the sixteenth and seventeenth centuries.

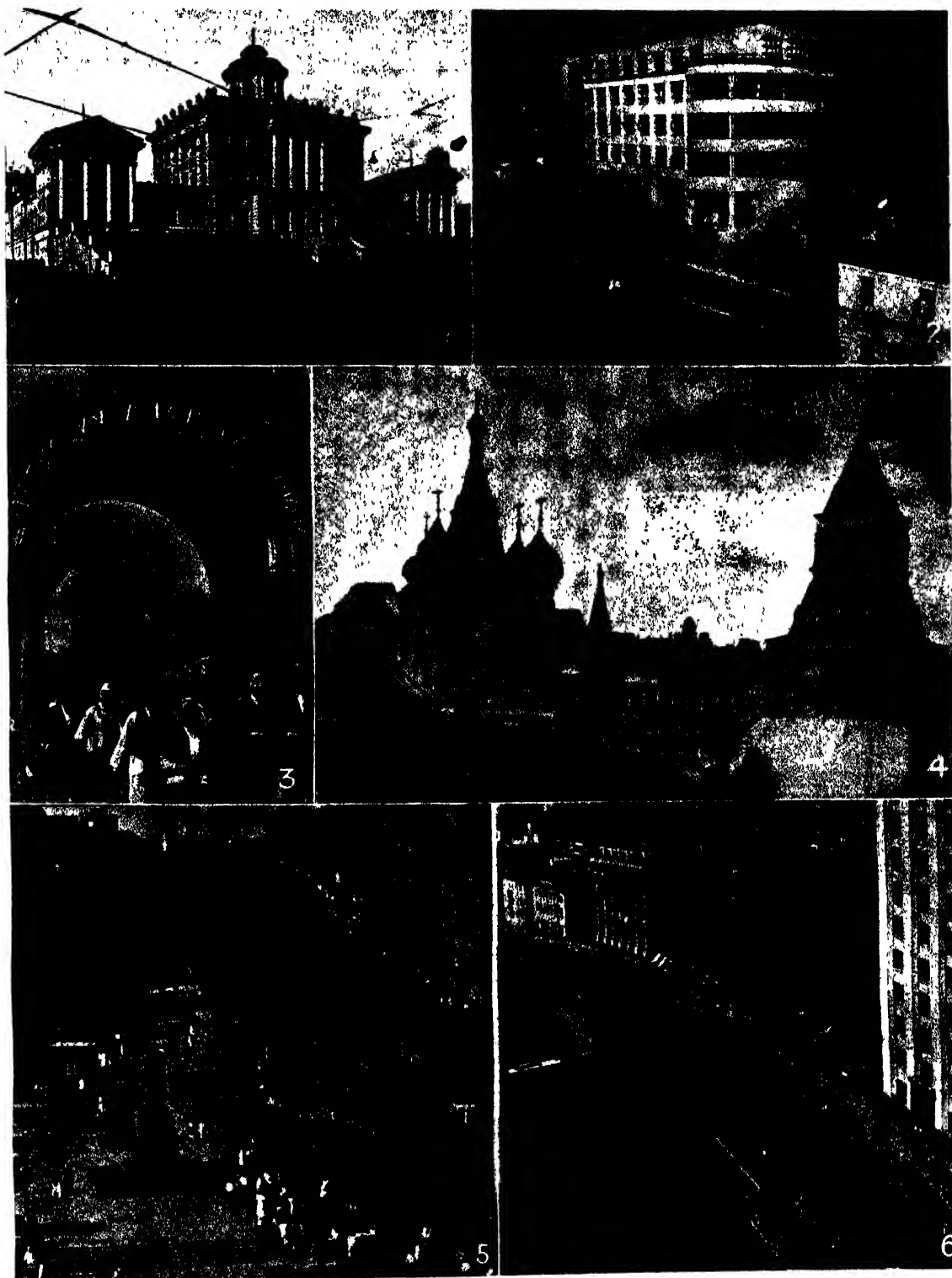
The outstanding characteristic of Moskva architecture during the Soviet period is its tremendous scope. It embraces not only the design of separate buildings but the complete reconstruction of the city as a whole according to a central and harmonious plan. In 1933, ten planning and projecting institutes were organized under the auspices of the Moskva Soviet, and the best architects in the Union were asked to collaborate. In 1935 *The General Plan for the Reconstruction of Moskva* was finally adopted. At the end of the Plan in 1945, the area was to have been more than doubled.

The town's main thoroughfares have been transformed. The existing system of radii and circles has been taken as the basis for reconstruction, and has been supplemented by a network of new roads to relieve congestion.



THE BEACH AT AYU-DAG (BEAR MOUNTAIN), A HOLIDAY RESORT ON THE BLACK SEA COAST IN
THE CRIMEAN REGION OF THE R.S.F.S.R.

Photo Planet



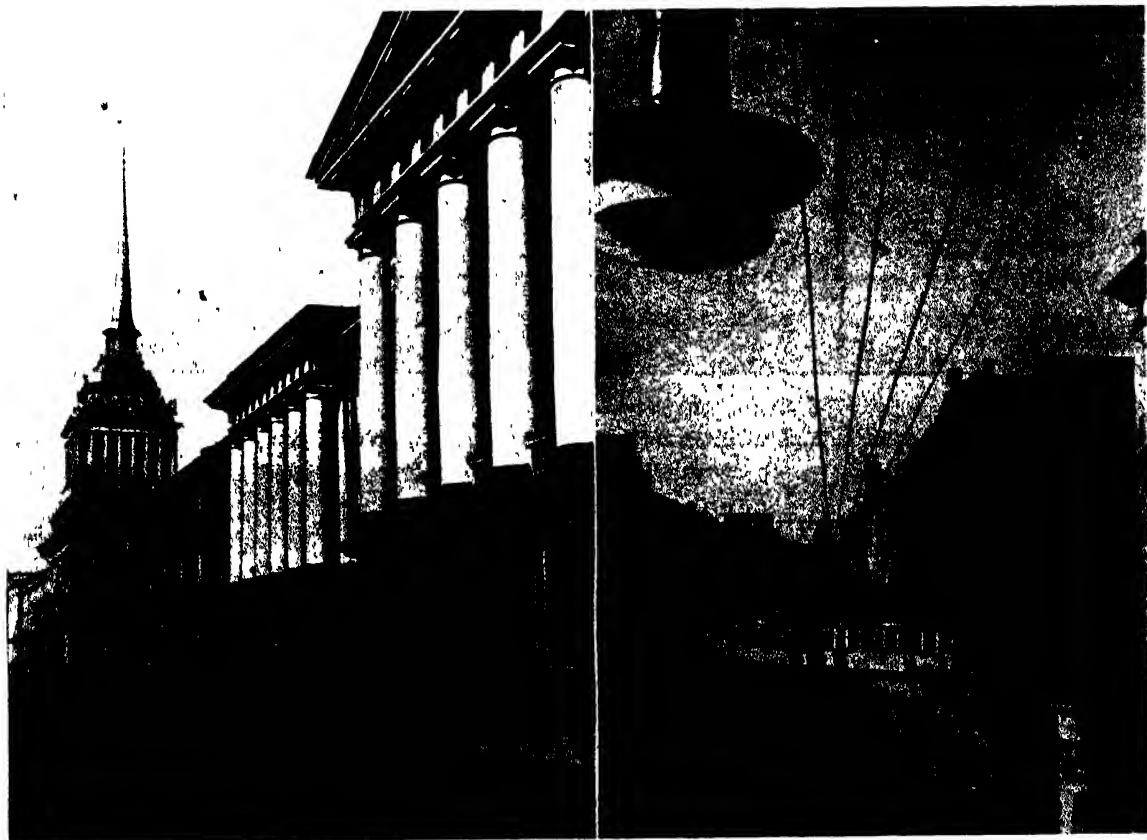
MOSKVA

1. The Lenin Library. 2. An example of modern architecture. 3. The entrance to a Metro underground station. 4. The Kremlin.
5. A shady boulevard. 6. One of the main streets

Many old streets have been widened to sixty and eighty yards, and the city's squares reconstructed. The Red Square, but for the War, would have been twice its present size. A broad park zone was planned, taking in a number of the existing parks, which will encircle the entire city. This architectural reconstruction of Moskva, which has already roused the interest of experts abroad, will

The region around Moskva abounds in waterways. Rivers link the city with the Volga and Mariinsk, and these in turn are connected with the waterways of the entire country.

Leningrad. The foundations of St. Petersburg, the capital of the Tsarist empire, were laid on the deserted banks of the Gulf of Finland more than 200 years ago. In 1914 the city was re-named Petrograd. After the



LENINGRAD

Left: The former Admiralty buildings. Right: One of the main streets of the city

treat the city's architecture as a single composition. Moskva indeed bids fair to become the most interesting capital of the modern world.

Moskva is the centre of a railway network. Eleven main lines radiate from the city. As a result of the enormous growth of traffic, the railway system is now being reconstructed. The main task is to move the inspection shops, freight yards, etc., outside the city limits, to connect the lines leading to Moskva by means of tunnels, and to electrify the inter-urban railway network. Another interesting development in the town's transport facilities has been the construction of the Moskva underground railway.

death of Lenin, the leader of the Soviet Revolution, the city was re-named after him. It lies on the delta of the River Neva, spreads out over many islands, and is intersected by numerous canals.

This city of palaces and museums, as visitors often call Leningrad, is also an important industrial centre. The city contains gigantic engineering plants, machine tool and instrument works, and electrical enterprises. The shipyards of Leningrad produce motor vessels and steamers.

The great growth of Leningrad's industry has led to an enormous increase in the population of the city. In 1927 the population of

Leningrad was 1,627,000, and in 1939 it was 3,191,304, an incredible increase in 12 years. No later figures are available, but they give some idea of the town planning problems generally in the U.S.S.R. Since 1939 many completely new towns have, in fact, had to be built—chiefly in the Urals, the Volga steppes, Western Siberia and Central Asia.

Leningrad is also one of the scientific centres

are represented by a number of buildings in an excellent state of preservation. The environs of Leningrad also attract great attention, for here are found the country villas and palaces of the former Russian royalty and aristocracy, outstanding among them being the "Russian Versailles"—Peterhof—with its luxurious palace and terraced fountains.



U.S.S.R. IN ASIA

Left: Alupka, a health resort on the southern coast of Crimea. *Right:* Tashkent, capital of Uzbekistan (Soviet central Asia), where most of the inhabitants wear European clothes, but a few, as shown in the photograph, retain the national Uzbek costume

of the U.S.S.R., containing innumerable research institutes, universities, and schools. There are over 300 scientific and educational institutions in the city.

In education Leningrad also stands high; it was the first town in Russia to introduce universal ten-year education. The city is regarded as one of the most beautiful in the world.

Amongst the most striking features of Leningrad are its harmonious planning and its great wealth of interesting architecture. Eighteenth-century baroque and Russian empire style of the last quarter of the eighteenth century

Tbilisi (519,175), the capital of Georgia, is connected by railway with the port of Batum, which is the end of an oil pipeline from Baku.

The Ukraine "border marches" do not extend far east of **Kharkov** (a centre for the manufacture of iron and steel products with a population of 833,432), or far north of **Kiev** (situated on the Dnieper River, the oldest of the famous towns of Russia, a former capital of the country, and now the capital of the Ukraine, with a population of 846,293). The only other towns of major importance in the republic are **Odessa** (604,223), the Black Sea wheat port and an industrial centre of importance; and

Dnepropetrovsk (500,662), the steel centre near the hydro-electric plant at **Dnieprostroy**.

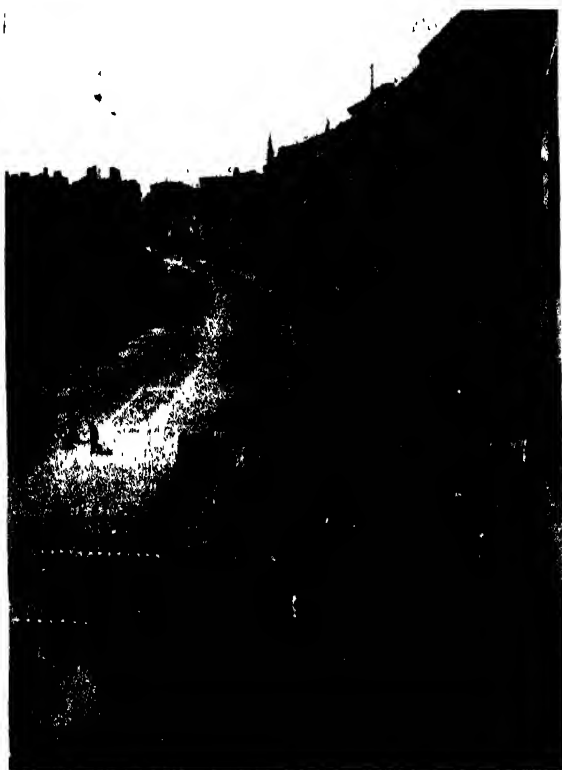
Samarkand (134,346), one of the chief towns of Uzbek, like the holy city of Bokhara, contains several famous mosques which are gradually being surrounded by modern buildings. The original city is still partly enclosed by the old wall. It is a trading centre of importance.

Tashkent (585,005), former capital of Turkes-

tan, is now the largest city in Asiatic Russia, and the capital of Uzbek. It is a railway centre and merchandise is shipped on the Chirchik River to Bokhara. **Bokhara** (50,382), a holy city of this Mohammedan part of the Soviet Union and for centuries a caravan centre, now has railway connection with European Russia.

In Siberia the chief towns are **Irkutsk** (243,000), a trading centre at the junction of caravan routes from China; **Magnitogorsk**, a growing steel centre on an immense iron deposit in the southern Urals; **Novosibirsk** (101,000), capital of the West Siberian Area, developing due to the Kuznetsk coal-field; **Omsk** (281,000), gateway between European and Asiatic Russia on the Trans-Siberian Railway; **Tomsk** (150,000), a manufacturing and educational centre; **Vladivostok** (206,000), the most important Siberian port.

OTHER TOWNS. **Archangel** (281,000), the capital of the Northern Area and an important timber port on the White Sea; **Astrakhan** (254,000), a port on the delta of the Volga; **Baku** (809,397), capital of Azerbaijan and centre of the petroleum industry; **Kazan** (402,000), a manufacturing and market town and capital of the Tatar Autonomous Republic; **Kronstadt** a naval station on the Gulf of Finland; **Minsk** (240,000), the capital of White Russia; **Rostov-on-Don** (510,000), port, grain collecting centre and industrial city, the administrative centre of the Northern Caucasian Area; **Stalinabad** (82,500), cotton town and capital of Tadzhikistan; **Stalingrad** (445,000), industrial centre for the manufacture of tractors and other agricultural implements.



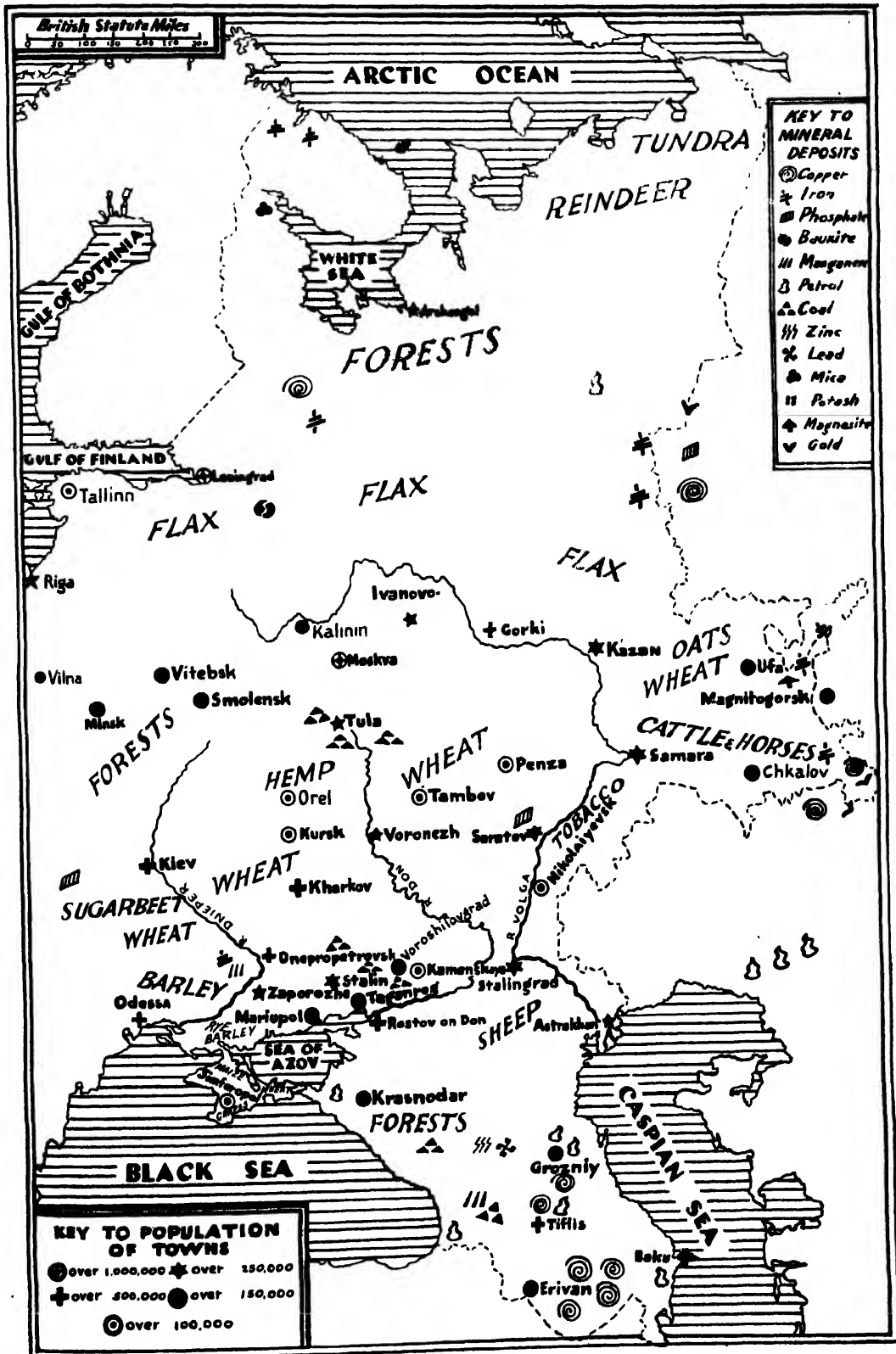
KIEV

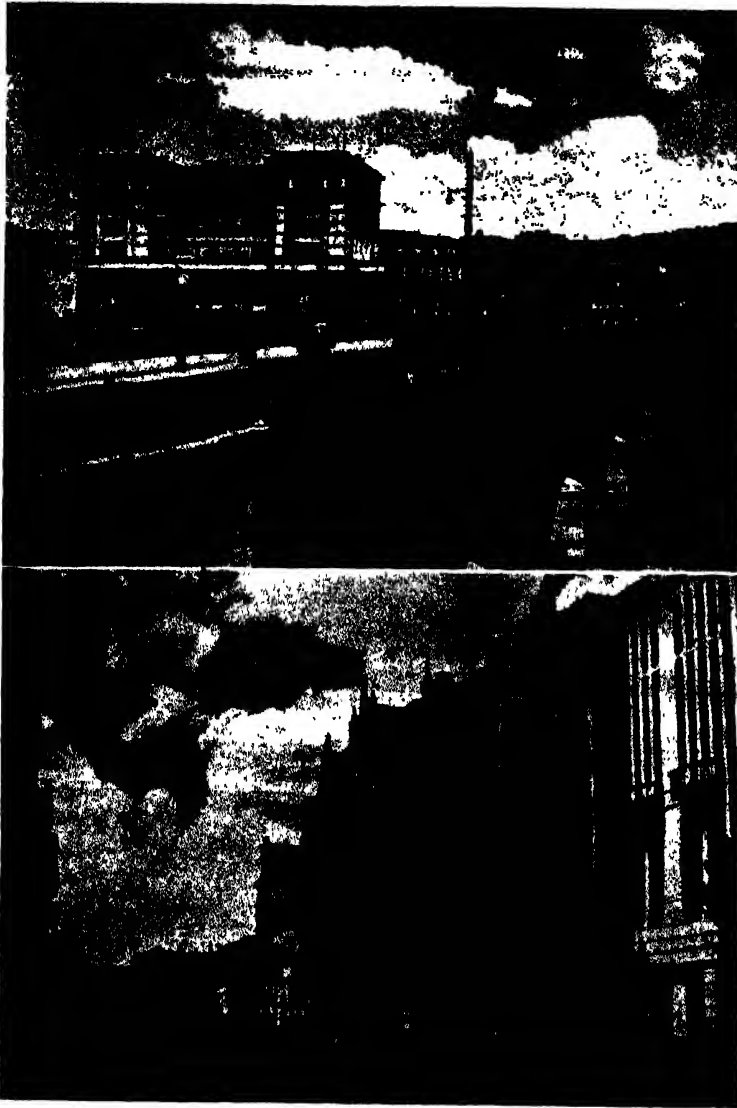
A street in the capital of the Ukrainian Soviet Socialist Republic

Resources and Industries of the Soviet Union

RUSSIA was, before the revolution, a backward country. Its enormous natural resources, its forests and rivers, were not only insufficiently utilized, but were surveyed to only a negligible extent. Valuable raw materials were recklessly exploited where they were easily accessible. Two-thirds of the entire manufacturing industry of the country was concentrated in a few central provinces which

were lacking in both fuel and raw materials. Under the Communists the former backwardness of the country has been abolished. Forests and rivers have been studied, new branches of industry organized, new cities built, the largest canals and hydro-electric stations in the world constructed, new railway-lines built and roads laid, air transport established, and a sea passage through the ice of the Arctic Ocean created.





TOWNS OF UKRAINE AND GEORGIA

Above: The Karl Marx Bridge in the city of Tbilisi, capital of the Georgian Soviet Socialist Republic. *Below:* Lenin Street in Dnepropetrovsk, a city on the Dnieper River, Ukraine

The economic development of the U.S.S.R. has been greatly facilitated by its possession of vast natural resources. This applies to many minerals, as well as to timber.

Mining and Industry. The organization of industry in Soviet Russia is based on state ownership and control. The Soviet Union is extremely rich in minerals and it is claimed that it contains 20 per cent of the world's coal deposits, 58.7 per cent of its oil and 53 per cent of its iron ore. The U.S.S.R. also has sufficient deposits of all kinds of non-ferrous and rare metals and chemical ores to cover the requirements of all branches of her industry for many decades. Before the Revolution, comparatively

little of the country had been prospected, but since 1917 systematic surveying has enormously increased the known resources of the Union.

The two principal coal-fields are the Donetz and the Kuznetsk. At Karaganda in Kazakhstan a new coal basin estimated to contain thousands of millions of tons, was discovered, and put into exploitation before the last war. Another large coal basin was found along the Middle and Lower Tunguska Rivers in East Siberia, while others have been discovered near Chelyabinsk and Sol-Iletsk in the Urals.

The discovery of rich oil fields on the western slopes of the Urals, in several areas in Siberia, on the shores of the Arctic ocean and in central Asia and the expansion of existing oil regions in the Caucasus led to the production of 38,000,000 tons of petroleum in 1950.

The rapid progress of the iron and steel industry is largely due to the increased output of ore, obtained from new deposits as well as from the old mines. On the Kola peninsula, in the far north-west beyond the Arctic circle, a great industrial town (Kirovsk) has sprung up. The discovery of vast deposits of apatite, from which excellent fertilizers and superphosphates are manufactured, was respon-

sible for this transformation of the Khibinsk tundra.

Textile industries, too, are important, including the manufacture of cotton, woollen, silk and linen material. The cotton industry has expanded largely since 1945, especially in the Urals, Central Asia and Siberia.

The Soviet Union possesses about one-third of the world's timber resources, and forests occupy 44 per cent of the total territory. Even more important than area are the species of timber found. Some 85 per cent of the world's timber trade is concerned with coniferous timber, and about 78 per cent of the Soviet forests are coniferous. In the north, in

Karelia, Archangel and Komi the timber, pulp and paper industries have been developed. For countless ages the uninhabited north of the Soviet Union was considered inaccessible. But in the 1930's the northern sea route was established along the Arctic coast, from Murmansk to Vladivostok. Log wood from Siberia is floated down the Yenesei River to Igarka, where it is prepared for export.

Other Developments. New wireless stations have been established along the whole Arctic coast. Polar stations have come into being on islands where man had never set foot before. On the islands of Novaya Zemlya, Severnaya Zemlya, Wrangel Island, and Fridtjof Nansen Land (Franz Josef Land) there are now winter settlements, food and coal storehouses, and wireless stations, built in the last decade.

In the summer of 1937 four aeroplanes deposited four brave men at the top of the world, at the inaccessible North Pole. These men encamped on an ice floe. Their location could not be marked on the map because it was constantly changing, together with the drift of the ice floe. Exploration of both meteorological conditions and possible aerial routes to America was carried out at that time.

The mastery of the northern sea route introduced a complete revolution in the economic and cultural life of the Soviet extreme north. Large-scale mining enterprises have been established and whaling and hunting industries have been extended. The White Sea-Baltic

Canal, constructed before the second World War, shortened the water route between these seas from seventeen to five days. Hydro-electric stations have been built on the small and swift Ncva River that flows from the Lake Imandra, and on the River Svir that unites Lake Ladoga with Lake Onega. The first Soviet hydro-electric station was built on the Volkhov River, which joins Lake Ilmen to Lake Ladoga. The aluminium works at Zvanka is supplied with power by this station. A hundred kilometres from Zvanka lie the Tikhvin bauxite deposits, which provide the raw material for the aluminium works.

Industrial Centres. Leningrad Province is now a great manufacturing centre, producing such goods as high-grade steel, powerful turbines, railway coaches, tractor ploughs, precision instruments and machinery for the light and food industries. Leningrad is one of the chief producers of power equipment for the U.S.S.R.

Moskva Province manufactures about one-fifth of all the machinery produced in the Soviet Union. It has a large chemical industry and is an important centre for the production of high-grade steel. It claims the first completely automatic factory in the world—one producing motor pistons. The mining of coal in the Moskva Basin is also of major importance.

The beautiful Moskva-Volga Canal, which is twice as long as the Panamá Canal, only took two years to build, and made Moskva a port



COAL MINING

A view of a coal mine at Gorlovka, showing the slag heap and winding gear

for three seas. Large ships could sail from Moskva to the Caspian Sea, via the Volga; to the Baltic Sea and Leningrad via the Marinsky system; and to the White Sea, via the White Sea-Baltic Canal. With the opening of the Volga-Don Canal in 1952, Moskva now also has access to the Black Sea and the Sea of Azov.

A new town sprang up near Moskva before



TRADE AND COMMERCE
Shipping timber for export from Leningrad

the war. It is Stalinogorsk, centre of the huge Bobriky Chemical Combine. The large Stalinogorsk electric station uses lignite from the Moskva coal-fields. Nearly half of the electricity generated by this station is consumed by the Bobriky Chemical Works and by the adjacent Tula industrial region, which supplies the central part of the Soviet Union with metal.

The Ivanovo and Yaroslavl Provinces, which formerly produced only textiles, have become important manufacturing centres, producing machinery and chemicals.

In Byelorussia (White Russia) the wood-working, paper and match factories were reconstructed, and important machine-building and chemical enterprises were built. This

republic has also a number of glass, building material, textile, and leather factories. Peat is largely used as fuel in the regional electric power stations.

The Ukraine. The Ukraine—one of the richest of the Soviet Republics in natural resources and fertility of soil—has become a country of highly-developed industry. The reconstructed Donets Coal Basin produces four times the quantity of coal obtained there before the Revolution; more than 60 per cent of the total output of the Soviet Union. Reconstructed or newly-built giant metallurgical works are manufacturing four times as much as before the Revolution. The Ukrainian machine-building industry supplies more than one-tenth of the total Soviet machinery production. The largest hydro-electrical stations in the Soviet Union have been built in the Ukraine; a large chemical industry, and the manufacture of agricultural machinery, tractors and aluminium have been developed.

Between Dnepropetrovsk and Zaporozhe in the Ukraine, the great Dnieper River crosses a stone ridge which caused rapids along the river for a distance of ninety kilometres. The rapids made it possible to construct the great Dnieper hydro-electric station on the river. The construction of the electric station made the river navigable along its entire course. Near the power station lie the Donbas coal-fields, the iron ores of Krivoi Rog, the manganese deposits of Nikopol, and the limestones and kaolin clays of Zaporozhe. One of the largest tractor plants established in the U.S.S.R. is located in Kharkov. Light-weight tractors are produced there suitable for the cultivation of the Ukrainian soil.

Farther to the south lies the Caucasian Mountain Range, an area also possessing vast natural resources. Electric stations erected on the mountain rivers supply power for the growing industry of that region, and provide energy for the working of the Chiaturi manganese deposits, the Tkvarcheli iron deposits and Tkvilul coal.

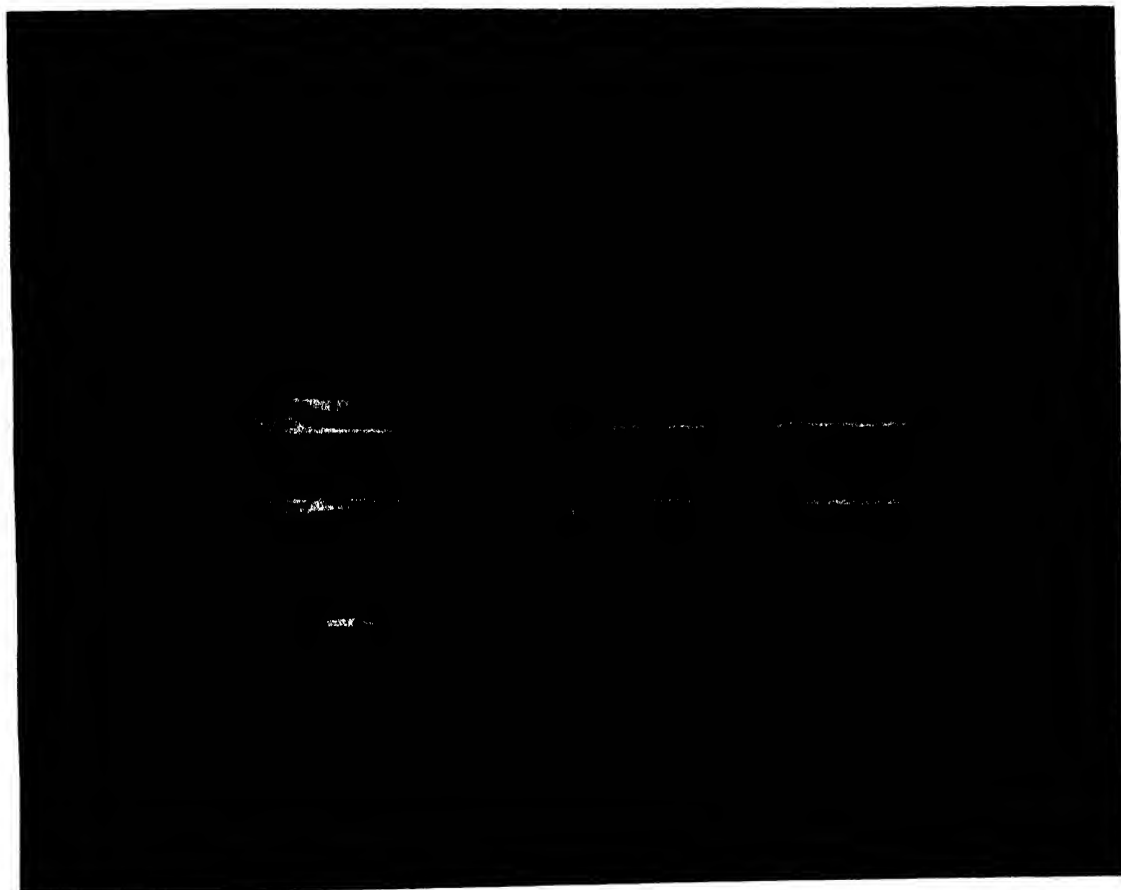
The Caucasus. The oil fields of the Caucasus are being constantly developed. The whole of the Apsheron Peninsula in Azerbaijan, where Baku, the centre of the oil industry, lies, is covered with a forest of derricks. Azerbaijan has increased its oil production threefold and machine-building and a chemical industry are developing in Baku. Azerbaijan is now the main centre in the Caucasus for growing Egyptian cotton, and is approaching second

place in tea and citrus fruit production in the U.S.S.R.

Georgia, another flourishing republic in the Caucasus, has to-day a network of hydro-electric stations, and has become the principal area of Soviet sub-tropical cultivation. In addition to the reconstruction of the manganese ore mining plant in Chidtura, a ferrous alloy plant has been built in Jugeli. The chem-

rough line from Leningrad through Smolensk to Stalingrad. As they retreated they ravaged the land, demolished installations and transplanted whole factories into the interior. Much labour and time is needed to restore completely these valuable and important areas.

The Lands Along the Volga. For countless centuries the land along the Volga seemed to breed only laziness and despondency in its



THE OIL REFINING INDUSTRY
Factories near Baku

ical, machine, and light industries are also making rapid progress.

Soviet Armenia, the most southern republic in the Caucasus, is noted for the Kanakir hydro-electric station, for the first synthetic rubber plant to be constructed in the U.S.S.R., for the reconstructed copper mines in Alaverdy and Kafan, and for its important plants in the machine-building, light and food industries.

The 1939-45 War. Following the German attack on Russia in 1941, the Russians were forced to retreat, the farthest limit being a

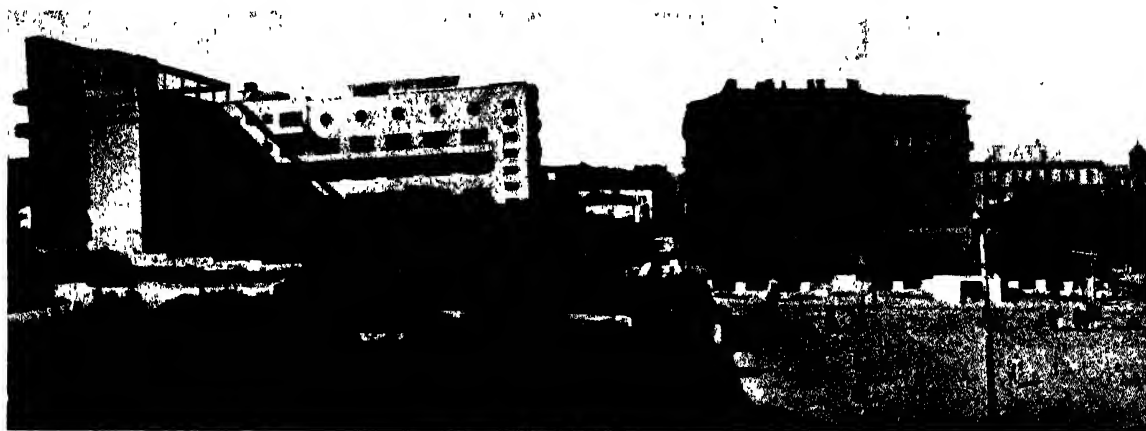
people. Now great industrial enterprises have been built. Some of its principal towns, including Kazan, Saratov, Kuibyshev, and Stalingrad, are now centres for the production of machinery, ships, tractors, railway carriages and machine tools. Local fuel is being mined in Savelyev and Kashpira, and sulphur in Alexeyevka. Oil wells have been sunk in the oil district of Syzran, and large hydro-electric stations are being built on the Volga near Rybinsk. On the Samara bend of the Volga, near Kuibyshev, preparatory work was

in progress before the war for the construction of the largest hydro-electric stations in the world; their exploitation will not only provide power for the industries of the Central Volga Region, but will solve the important problem of irrigating a tract of land of approximately 11,000,000 acres.

Log-wood floats down the Volga to Balakhna, a new industrial city beyond Gorki, where it

culated at between 50,000 and 60,000 million tons.

The Urals. The Urals possess a combination of riches which cannot be found in any other country. Yet before the Revolution such works as existed smelted pig iron with charcoal in small semi-handicraft conditions. At present from the Far North, along the entire Ural range, has been built a chain of enterprises



NEW BAKU

One of the squares laid out in this industrial town between the World Wars

is manufactured into paper. A large automobile plant was erected near Gorki (formerly Nizhni-Novgorod), which is the largest producing centre in the U.S.S.R. for motor lorries and light cars.

Continuing our voyage along the Volga we find everywhere a changed world. There is Ulyanovsk (formerly Simbirsk), Lenin's native town, where a huge synthetic rubber factory has been built. Next comes Saratov, which has been converted into an industrial town producing large numbers of harvester-combines. Finally comes Stalingrad with its huge tractor works. This huge new city was only developed after 1918. It withstood the main force of the German offensive in 1943 and, although held by the Russians, suffered extensive damage.

Thirty years ago, Khalilovo was a neglected spot in the south-eastern corner of the Central Volga Area. But in the autumn of 1929, outcroppings of iron ore were discovered there; and these enormous deposits have transformed Khalilovo into a metallurgical and mechanical-engineering centre. Thirteen hundred kilometres to the east of Khalilovo lies the Karaganda coal-field. A railway line, 230 kilometres long now connects Karaganda with Aktubinsk, and carries coal to the Siberian trunk railway line. The Karaganda coal reserves are cal-

handling iron and steel, non-ferrous metals, coal, oil, machinery, chemicals, timber, paper, and electric power. Sverdlovsk and Chelyabinsk Provinces are now among the most industrialized districts of the country. Coal and oil were discovered in the northern Urals; coal on the Pechora River and oil on the Ukhta River. The exploitation of the natural wealth of the Urals is only beginning. Before the war they produced more than 2,500,000 tons of pig iron a year, and the reconstructed copper smelters produced at least two-thirds of the country's entire copper output. The machine output of the Urals comprised more than 8 per cent of the country's total; and coal-mining alone had increased ninefold.

The Berezniky Chemical Works have been built on the left bank of the Kama River, twenty-five kilometres south of Solikamsk, which is famous for its almost inexhaustible deposits of potassium salts. Together with the Kizyl coal basin and the Vyatka phosphorite deposits, Berezniky and Solikamsk form the centre of the Ural chemical industry.

The Magnetic Mountain. In the eighteenth century the iron mountain was discovered. Only small enterprises were established; but to-day Taghil is an important auxiliary to the Magnitogorsk Iron and Steel Works, and is the

second largest producer of pig iron in the Union. The largest, and main metallurgical centre of the east, is Magnitogorsk, by the Magnetic Mountain of the southern Urals, whose vast deposits of ore have an iron content of over 60 per cent. Before the war the Magnitogorsk Iron and Steel Works planned an output of 2,500,000 tons of pig iron per annum, which total was to be increased to 4,000,000 tons.

Although the Urals are rich in iron ore they are comparatively poor in coal, and a new source had to be found to supply Magnitogorsk. As a result the Kuznetsk coal basin in West Siberia was developed.

The Kuznetsk coal basin is one of the industrial giants of the world. Its reserves are estimated at 450,000 million tons. The entire coal basin is now dotted with towns and settlements around the mines. Leninsk and Stalinsk are new towns that have grown up there.

The wealth of the Kuznetsk Basin in coking coals has inspired the plan of building up a metallurgical industry near the coal basin itself; and the first metallurgical works in Siberia, the Kuznetsk Works, were constructed near the iron mountains of Telbes and Temir-Teu, two peaks on the Altai Range. The insufficient supply of Altai ore is supplemented by ore from Magnitogorsk. Trains which carry coal from Kuznetsk to Magnitogorsk return loaded with iron ore; the two important metallurgical centres, situated 2000 kilometres apart, thus form a single economic combine. Coal from Kuznetsk also supplies fuel for the large chemical combine in Kemerovo in the north-west corner of the Kuznetsk coal basin. Here, too, a new city has grown up.

Resources of Kazakhstan. Geological investigations carried out recently in Kazakhstan have completely changed accepted ideas of that vast area. In the region of the Emba River in western Kazakhstan huge oil fields were discovered and their exploitation had already begun before the war. Karaganda, which was a small coal basin of only local importance, became the third coal centre of Russia.

Vast copper deposits are being worked near the old Spask Copper Smelting Works. The centre is Koenrad, on Lake Balkash, where a new town named after the lake has come into being. The old Ridder Mines and works have been reconstructed; enormous deposits of non-ferrous ores have been found in the Altai Mountains. In addition to the rich oil fields of Emba, there are the phosphate areas of

Aktubinsk, where a large fertilizer plant has been built. On the basis of the increased production of agricultural raw materials required for industry, like cotton, hides, wheat, and so on, large-scale enterprises in the food and light industries have been built up.

Development in Central Asia. Extensive development has taken place in central Asia. With the reconstruction of agriculture, cotton and silk cultivation were developed. Elaborately constructed irrigation systems supply the cotton fields with water, and an agricultural machinery plant in Tashkent provides the necessary machinery. The Kirghiz Republic has become the main coal centre of central Asia, with an output exceeding 1,000,000 tons. The oil industry has grown in Turkmenistan and Uzbekistan; the mining of sulphur has been organized in the Kara-Kum desert and of mirabilite in Kara-Bogaz-Gola. Non-ferrous and rare metal deposits discovered during the last decade in Uzbekistan, Tadzhikistan, and Kirghizia, are being worked on a large scale. Light industry has developed close to the sources of raw materials in the republics of central Asia: one of the largest of Russia's textile factories has been built in Tashkent, and there are others in Charjuy, Stalinabad, Ferghana, and elsewhere. Near Tashkent, too, there is a chemical plant producing fertilizers for the cotton fields, and the construction of 10 hydro-electric stations on the Chirchik River is now nearing completion.

A new winding line has appeared on the map of the mountains of Tadzhikistan. It marks a motor road built only in the '30's connecting Osh and Khorog over the Pamir Pass, which is one of the greatest engineering feats in the history of road construction. Swift motor-cars have replaced the beasts of burden which used to plod along the mountain paths.

The Far Eastern Area. A number of important economic complexes have been established in the Far East. On former waste land of the Siberian *täiga*, by the Amur River, is the city of Komsomolsk. Amongst its enterprises, completed or under construction, are huge shipbuilding yards, a large transport machinery plant, a metal plant, a power station which is the largest in the Far Eastern Area, and a number of factories.

Coal-mining has been developed in Suchan, Artem, and Kivda; machine building in Vladivostok; the cement industry in Spask; oil-refining and machine-building in Khabarovsk. The Far East is thus being industrialized.

Agriculture. Vital changes have taken place in the country's agriculture since the establishment of the Soviet Government. The success of collectivization, the establishment of State farms, machine tractor stations, the supply of vast quantities of agricultural machinery and implements to the countryside, and the improvement of the transportation facilities of the villages, have entirely revolutionized Soviet agriculture. More than 90 per cent of the countryside has been collectivized.

After the Revolution the land was nationalized, and handed over to the peasants for cultivation.

As a result of the introduction of collective farming and modern methods, there has been a continuous increase in the productivity of labour in the countryside. The use of tractors and agricultural machinery has become constantly better, resulting in more work being performed in shorter time. Collectivization and mechanization have, in fact, changed not only the methods of work in the village, but the whole system of rural economy. In 1950 the smallest farms were merged into large units, but even so the total number of collective farms in existence was close on 100,000.

The mechanization of the main agricultural processes is now fully assured. Rostov, Gomel, Saratov, and Tashkent are big agricultural machine-building centres, and produce more than half the total output of Soviet agricultural machinery.

An important advance has been made in the cultivation of industrial crops. The U.S.S.R. is now in a position to satisfy its requirements in agricultural raw materials from its own sources. The area under cotton, rubber-bearing plants, sugar beet, tea, citrus fruits, tobacco, and other crops is being extended from year to year.

The U.S.S.R. is also now the world's largest producer of hemp and sunflower seeds.

Transport. Important changes have taken place also in transport. The length of railway lines had been increased from 36,500 miles in 1913 to close on 70,000 miles by 1950. In addition to the building of new lines, existing ones have been modernized and their capacity increased. The rolling stock has been entirely renewed.

Several railway lines have now been electrified in the Caucasus, near Moskva, in Siberia, the Urals, the Ukraine, the Volga, and in other parts of the country. Among the great achievement of the Soviet railway system must

be included the double-tracking of the trans-Siberian line, the construction of the Turkestan-Siberian Railway, and considerable reduction in transportation costs.

Water transport is of considerable importance to the U.S.S.R., not only for internal trade, but because 95 per cent of the export and import trade of the country is shipped by sea.

The restoration of the mercantile marine began in 1923, when existing vessels were either reconditioned or scrapped. Many ships were purchased abroad, and a beginning was made with shipbuilding in the country. By 1952 the tonnage was estimated to be over 2,500,000. In addition to the improvement of mechanical equipment, many warehouses, sheds, wharves, and cold storage warehouses have been erected in the various ports.

River transport plays an important role in the carrying of bulk cargoes, thus relieving the railways. There are about 71,000 miles of navigable rivers at present in operation. In addition, there are over 45,000 miles of floatable rivers and many thousands of miles of canals and other artificial waterways.

The building of the White Sea-Baltic, the Moska-Volga, and the Volga-Don Canals has greatly increased the carrying facilities of the internal waterways. The canal connecting the White with the Baltic Sea now provides a direct route from Leningrad to Archangel; formerly the only route between these two seas was the northern route round Scandinavia.

The U.S.S.R. at the present time possesses a constantly expanding automobile industry, and is the largest producer in Europe of motor lorries. There has been a parallel expansion of road building. Of outstanding importance are the highways connecting Moskva with Kiev, the capital of the Ukraine, a distance of 866 kilometres, and the other road, linking Moskva with Minsk, capital of White Russia, a distance of 655 kilometres. These highways are sixteen metres wide, and built of concrete and asphalt. Extensive work in road construction has also gone on in the Caucasus, in central Asia, and in Siberia.

In the post-war period thousands of miles of new roads have been constructed and many of the old motor roads improved. It is estimated that between 1940 and 1952 the tonnage of goods carried by motor trucks increased threefold.

A vast air transport system has been built up in the last few years. Many air lines have been established, not only within the country,

but also across the frontiers. In 1936 the length of the regular air lines within the U.S.S.R. was 32,000 miles; by 1948 this mileage had increased to approximately 139,000. The three principal air lines of the Soviet Union are the trans-Siberian line, connecting Moskva with Vladivostok, and the two southern lines from Moskva to Tbilisi and Tashkent. The Moskva-Vladivostok line is the longest air line within the territory of any single state, being more than 5000 miles long. It links the Atlantic with the Pacific Ocean through the Moskva-Praha and West European air service.

Mighty as the developments of Soviet Russia appear to be, it is almost impossible to judge impartially what she is really like. Amazing discrepancies appear between one apparently well-documented account of the country and another equally authoritative and the "Iron Curtain" hides everything of significance and interest. In a country of approximately 200 million people, the seemingly vast war losses of 14 millions fade into insignificance. Russia's man-power and industrial potential, backed as they are by vast natural resources, seem almost inexhaustible.

The Baltic Republics

THE former Baltic States of Estonia, Latvia and Lithuania became the fourteenth, fifteenth and sixteenth Soviet Republics respectively in 1940. The history of these three countries is very similar; they won their independence from Russia in 1918, only to lose it again after the second World War.

The people of all three countries, too, live a simple pastoral and agricultural life, owing to the poverty of natural resources. With an area

of 18,000 square miles, the population of Estonia is only just over one million; the area of Latvia is 25,000 square miles, with a population of nearly two million, while the area of Lithuania is 25,500 square miles and the population nearly three million.

The Estonian country consists of low plains with rolling hills running from north to south, from 100 to 400 feet in height. The farmer's problem is considerably helped by the moderate



THE ESTONIAN LANDSCAPE

Ploughed fields alternate with coniferous forest. Occasional one-storied farms such as that seen on the right are the only habitations for miles

Photo: Estonian Lagation

climate, with its dry and reliable summer of four months' duration and rainfall in late summer and autumn. Against this must be offset the poor quality of much of the soil, with the result that the agricultural development has been more in the cultivation of pasture land for grazing and fodder to support the livestock rather than in the raising of crops. Dairying is the main pursuit of the Estonian people, of whom over three quarters are engaged in farming.

Among natural resources may be mentioned the great peat bogs which are found in some parts of the country: these furnish fuel for much of the rural population. Estonia has rich high-quality shale deposits and a factory to produce gas from shale was constructed in 1947. A pipe-line 125 miles long from Kotla Jarvi to Leningrad was completed in 1948.

Some 22 per cent of Estonia's territory is covered by forests which provide material for its saw-mills, furniture, match and pulp industries.

Tallinn, on the north coast, is the capital city, with a population of 146,388. Founded in 1219 by King Valdemar II of the Danes, this city, with its crooked, cobbled streets and high-gabled houses is, so far as the old parts of it are concerned, still in many respects a medieval city. The Castle and Dom Church date from the thirteenth century. The relics of medieval trading days are of particular interest, notably the House of the Black Heads, or headquarters of the unmarried merchants, rebuilt in 1572. Just outside the city, in a public park, stands a palace built by Peter the Great of Russia, a fine example of Russian baroque architecture.

Latvia has a valuable and considerable length of sea coast. This coast-line has for centuries made the country an important trading centre. There are three chief ports, Riga, the capital, Liepaja and Ventspils, all with fine natural harbours. The winter is severe and long and the port of Riga is normally closed for the winter months, but the severity of the winter is well compensated by the long dry summer.

Centuries of acting as a point of transit between East Prussia and Russia and the close contact of the other Baltic provinces left their

mark on Latvia in the form of a very mixed population. With the exception of a small hilly area in the north west, Latvia consists mainly of flat plains, laid out in meadow and forest. Forest covers nearly one quarter of the total area, and the fine stretches of pine woods behind the sandy shores of the coast provide one of the most attractive features of the country. As a national asset, forestry is of the greatest importance in the economic life of the country and considerable quantities of timber form, together with flax, the principal export of the republic.

Nearly half the population is engaged in agriculture. Dairying is again the chief pursuit, while the main crops are oats, rye and barley.

The capital city, Riga, has some 393,000 inhabitants and is famed for its charm and historic interest. Situated on the broad banks of Daugava, its graceful line of ancient buildings, towered over by the characteristic Gothic shapes of the Dom Church and Church of St. Peter, is perhaps one of the finest sights in the whole of the Baltic.

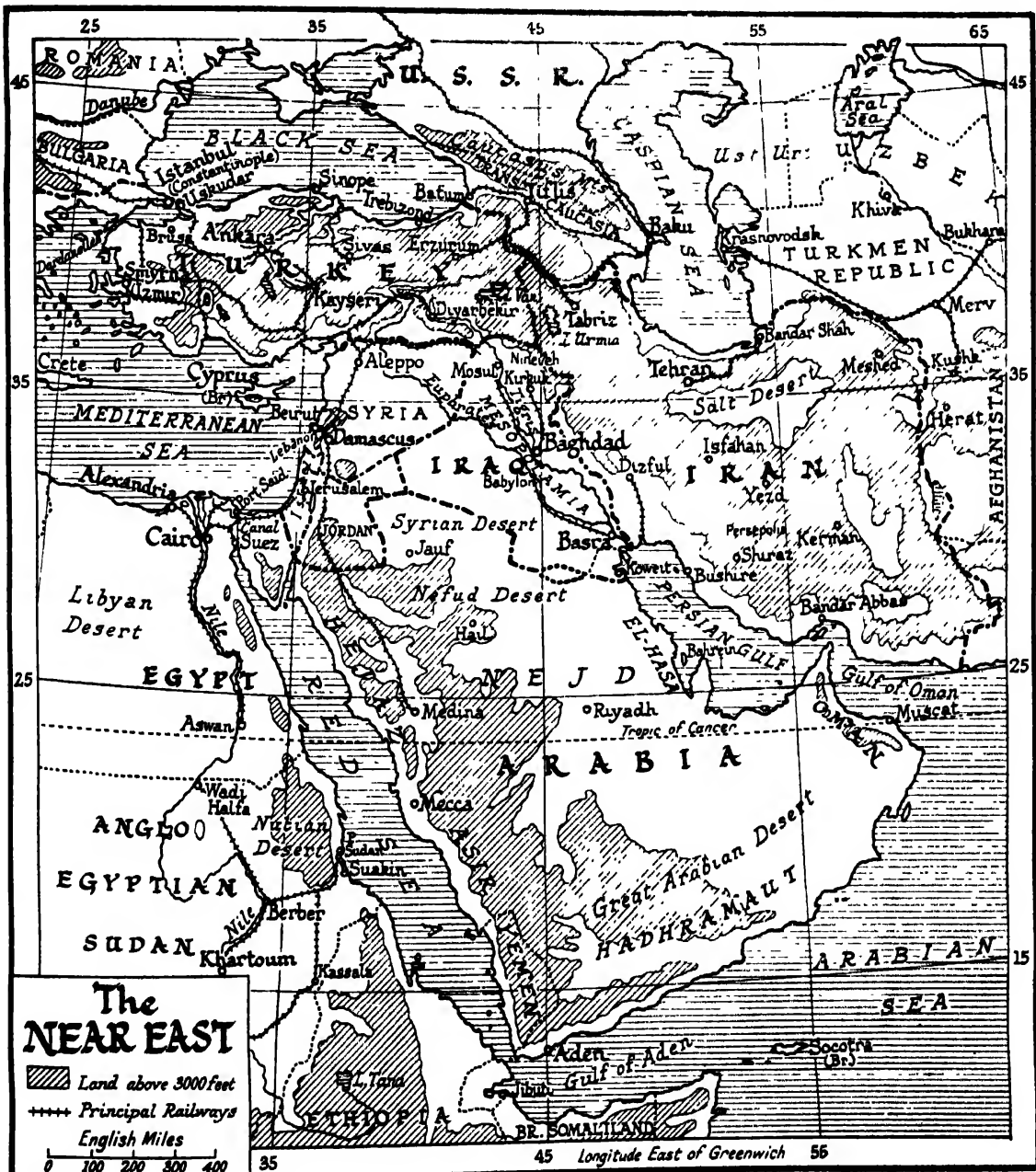
Lithuania is a large plain, watered by the river Nemunas. The coast line is a mere strip and the vital importance of Klaipeda (Memel) has long been apparent. Originally a part of East Prussia, Memel was made a Free City by the Treaty of Versailles and later handed over to Lithuania. It is now, of course, in the Soviet Republic of Lithuania.

Agriculture is the staple industry, employing some three-quarters of the population. The main exports are livestock and meat, eggs, leather and hides, timber and wood products and some flax.

The capital of Lithuania is Vilna (population 209,400). This city (known also as Wilno) has had a very chequered history since it was founded in the 10th century, being at various times dominated by both Poles and Russians. From 1920 to 1940 it was in Polish hands, but when Lithuania was incorporated in the U.S.S.R. its ancient and traditional capital was restored, displacing Kaunas which in the interim had been transformed from a small provincial town into a state more suited to the capital of a republic.

ASIA MINOR AND THE NEAR EAST

(Including Aden; Afghanistan; Saudi Arabia and the Yemen; Cyprus; Iran; 'Iraq; Israel and the Hashimite Kingdom of Jordan; Syria and Lebanon; Turkey)



Turkey

THE majority of people outside Turkey have either false or insufficient knowledge, or completely imaginary ideas, about the country, which contains, in Europe, the eastern part of Thrace, and in Asia, the whole of the peninsula of Asia Minor. Therefore Turkey is composed of two main parts, namely "Turkey in Europe" and "Turkey in Asia." These two parts are separated by the Bosphorus, the Sea of Marmara, and the Dardanelles. The total area is 296,300 square miles, of which only 9250 square miles are in Europe. Lakes occupy 3250 square miles and marshes approximately 450 square miles.

Turkey in Europe. Thrace is a low plateau, the eastern part covered by a range of mountains, which runs parallel to the Black Sea, and continues from the Bulgarian frontier to the south, falling gradually lower and reaching sea-level near the Bosphorus. The highest point of this range reaches 950 metres, and the average height of the whole plateau is between forty and 100 metres. Only the Black Sea coast of Thrace is wooded.

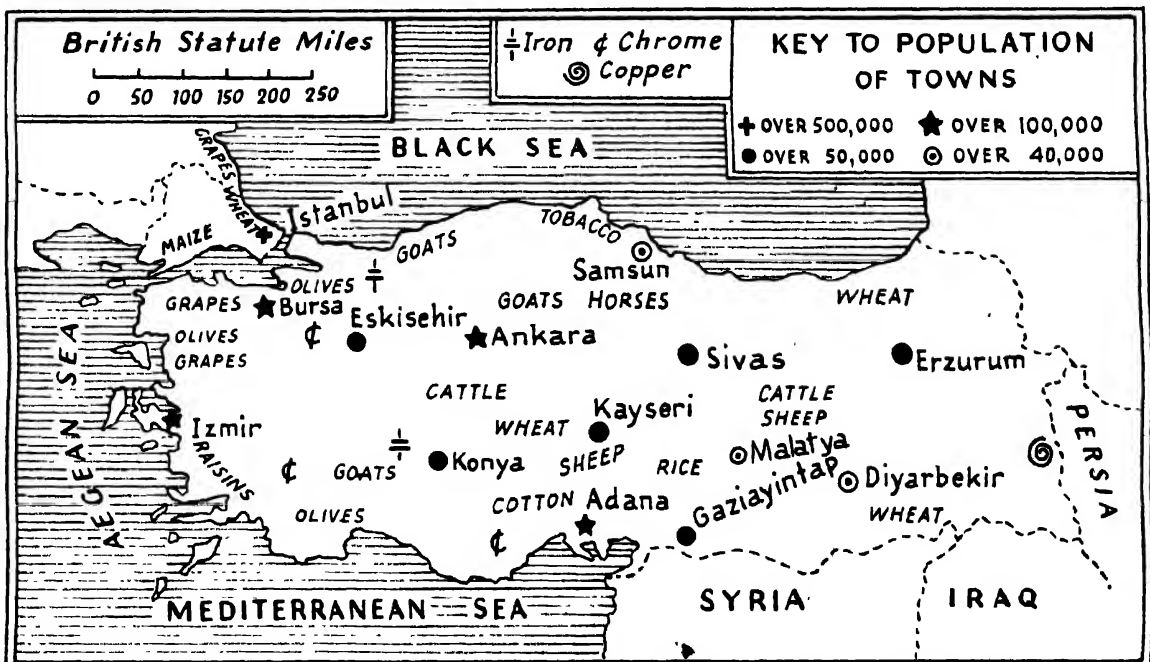
The only river which flows throughout its length in Turkish territory in Thrace is the Ergene, a tributary of the Maritza (Meriç),

which forms the boundary between Turkey and Greece. The River Tunja, which passes through the town of Edirne (Adrianople), also joins the Maritza.

The climate of Thrace is continental, slightly milder conditions ruling in the region of the Sea of Marmara. During the winter heavy snowstorms, which come from the Balkan mountains, are experienced.

The line passing through Thrace forms the only railway communication between Istanbul and Continental Europe. The main road, which runs almost in the same direction as the railway, is the only way for tourists who want to visit Turkey by land, through Thrace. This road was neglected for a long time, but was being rebuilt during the 1939-45 War. At the same time British military forces built a railway line from Tripoli in Syria to Haifa in Israel. Istanbul was thus linked by rail with Europe and with Syria, Israel, Egypt, and Libya as far as Tobruk.

Turkey in Asia. Turkey in Asia comprises the whole of a peninsula which is named alternatively as Asia Minor or Anatolia. This can be divided into two main sections, coastal and inland. The coastal section consists of





MOUNTAIN LANDSCAPE IN EASTERN ANATOLIA, TURKEY

Photo Turkish Embassy



ANKARA
Panoramic view of the New Town
Photo. Turkish Press Department

three regions: the Black Sea; the Sea of Marmara and the Aegean; and the Mediterranean Sea regions. The inland section consists of four regions: western, central, eastern, and south-eastern Anatolia.

Anatolia mostly consists of two high plateaux, which are generally bordered by mountains. The first, which has an average height of 800 metres, forms central Anatolia, and the second, with an average height of 1250 metres, forms eastern Anatolia. These mountains, which run practically parallel with the Black Sea, grow gradually higher towards the east, and in the region where the Turkish, Russian and Iranian boundaries meet, reach their highest point of 5211 metres on the famous Mount Ararat. This mountain is mentioned in the Bible, and is the highest point not only in the eastern Anatolian region, but also in the whole of Turkey. The other mountains, which are situated on the Turkish-Iranian border, have an average height of 3000-3500 metres. The highest point in the central Anatolian region is the peak of Mount Erjiyas,

which is situated south of Kayseri, and has a height of over 4000 metres. The other highest ranges, with an average of 3500 metres, are the Taurus and Anti-Taurus Mountains, in the southern region, and part of the eastern Black Sea coastal regions. The Ulu Dag (Mount Olympus) has a height of only 2540 metres, and is situated near the town of Bursa, in the Marmara region. It is covered with snow almost the whole year round, and has become a popular winter sports resort for the inhabitants of Istanbul.

Rivers, Lakes, and Forests. The important rivers in Anatolia are the Chorokh, Yesil Irmak, Kizil Irmak and Sakaria, which flow to the Black Sea; Gediz, Buyuk and Kuchuk Menderes to the Aegean Sea, and Seyhan and Djeyhan to the Mediterranean. The Tigris and the Euphrates, which have their origin in the Anatolian plateau, run partly through Turkish territory, pass into Mesopotamia, and later join and run together to the sea at the Bay of Bassora. Unfortunately none of these Anatolian rivers is suitable for navigation.

In Anatolia there are many lakes. The most important and largest is the Lake of Van, which is situated in eastern Anatolia and near the Iranian border and covers an area of 3970 square kilometres at an altitude of 1600 metres above sea-level. The water of this lake is very salt. Boat services are established between its shores.

Other important lakes are Tuz Gölü (Salt Lake), which is also called Lake Kochhisar, Beyshehir, Egridir, Akshchir, Bördör and Iznik, which are scattered in the western and south-western districts.

The forests in Anatolia occupy quite a large area. Most of them, and especially the larger ones, are situated between the Black Sea coast and the central Anatolian regions, and are known as the Boli and Kastamonu forests. Some other forests, which are situated on the eastern part of the Black Sea and Mediterranean districts, are also important, and grow much denser as one goes inland.

Climate. Each district of Anatolia has a different climate from the others. The Aegean district and the southern parts of the Taurus Mountains enjoy a real oceanic climate; in other parts of Anatolia, especially in the two plateaux, the continental climate prevails. During the summer on the coastal regions temperatures are moderate, but in the Mediterranean district a higher temperature prevails and in central, eastern, and especially in south-eastern Anatolia the ranges of temperature are very great. In the extreme eastern region of Anatolia summer begins very late and lasts only for a short period.

Anatolian plateaux present great differences of aspect. In the course of a two or three hours' journey one may experience a remarkable change in climate when passing from a snow-covered plateau to a blossoming valley or from an arid land into a green and fertile area.

The central Anatolian plateau, especially to the centre and southern parts of it, is arid. The average rainfall for the whole of Anatolia is 350 millimetres a year, but in the central districts the average is not more than 200 millimetres. The heaviest rainfall is in the eastern part of the Black Sea coast, and in the south, where the Taurus Mountains are situated. For instance, at Rize, on the Black Sea coast, the rainfall is very high, the average being about 2000 millimetres a year.

Population. The last general census in Turkey, which took place in October, 1950, fixed the population at 20,936,524. Of this

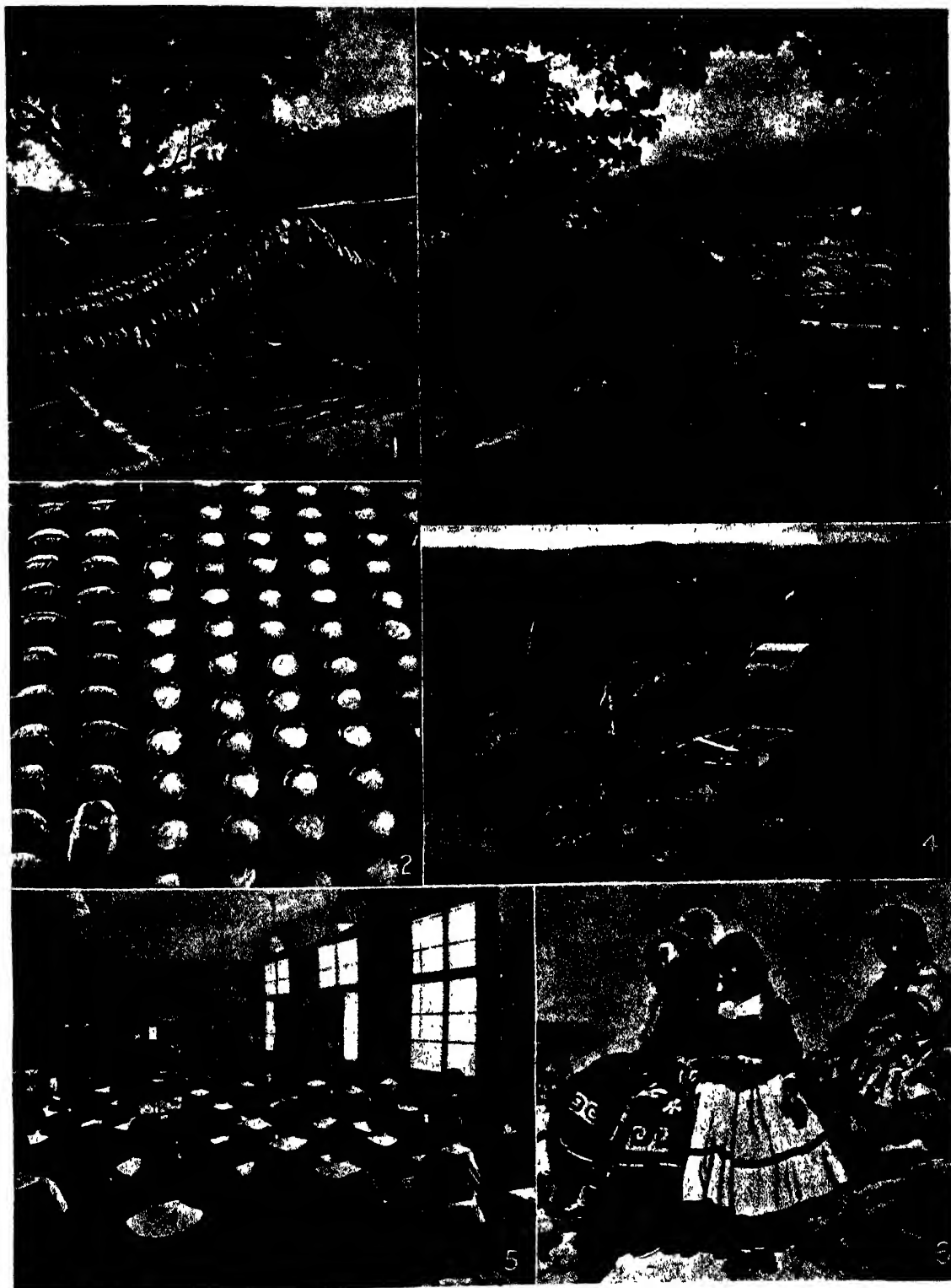
number 49 per cent were men and 51 per cent women. In the original general census (it was taken in Turkey in 1927 and was systematically based on European methods), the population was estimated at 13,648,270. The percentage of increase in population in twenty-three years was thus 53 per cent. Of the total population, about 1,626,000 are in Turkey in Europe, and 19,310,000 in Turkey in Asia. Rural population totals 76.5 per cent of the whole. Included in the totals are appreciable numbers of Kurds, Arabs, Greeks, and others.

The towns which, according to the last census, have over 60,000 inhabitants are Istanbul, 1,000,000; Ankara, 286,000; Izmir, 230,000; Adana, 118,000; Bursa, 100,000; Eskisehir, 88,000; Gaziantep, 73,000; Konya, 64,000; Kayseri, 65,000.

Ankara. Ankara, which used to be known as Angora, is the new capital of republican Turkey. It is situated slightly to the west and north of the central Anatolian plateau, at a height of 860 metres above sea-level. It is an old town of varied history. The first city on the site probably was founded by the Hittites about 3000 B.C. The Persians, Greeks, Romans, Byzantines, and Seljuks in turn held sway before the Ottoman Turks attained supremacy. Ankara, indeed, has been attacked, besieged and conquered by so many nations, and over such a long period, that in the town itself traces of these older civilizations have been almost completely obliterated, except its famous Citadel (Kale).

Under the Ottomans, Ankara spread to the east and south of the citadel, and most of the historical buildings such as the Mosque of Hadji Bayram, belonging to the fifteenth century, and the Yeni Djami (New Mosque) which was built by the famous Ottoman architect, the Great Senan, in 1565-66, and which is also called the Mosque of Djenabi Ahmed Pasha, belong to that period. The Ottoman rule, however, saw Ankara, which was built for the greater part in wood and sun-dried mud bricks, several times badly damaged by fire.

Under the Republic, the town has changed completely. There are now two towns, the old and the new. The old part is still grouped around the Citadel, but the new is being built in the direction of Chankaya, the one-time suburb of old Ankara, where to-day the President of the Republic has his residence. Along the road leading to Chankaya, which is over 1000 metres above sea-level, stand Government



LIFE IN MODERN TURKEY

1. Drying tobacco. 2. Sugar in crystals at the sugar refinery of Eskişehir. 3. Farm buildings between Kars and Artvin. 4. Agricultural machinery near Ankara. 5. The Young Women's College at Ankara showing the development of Europeanized dress and culture. 6. Peasant girls of Anatolia

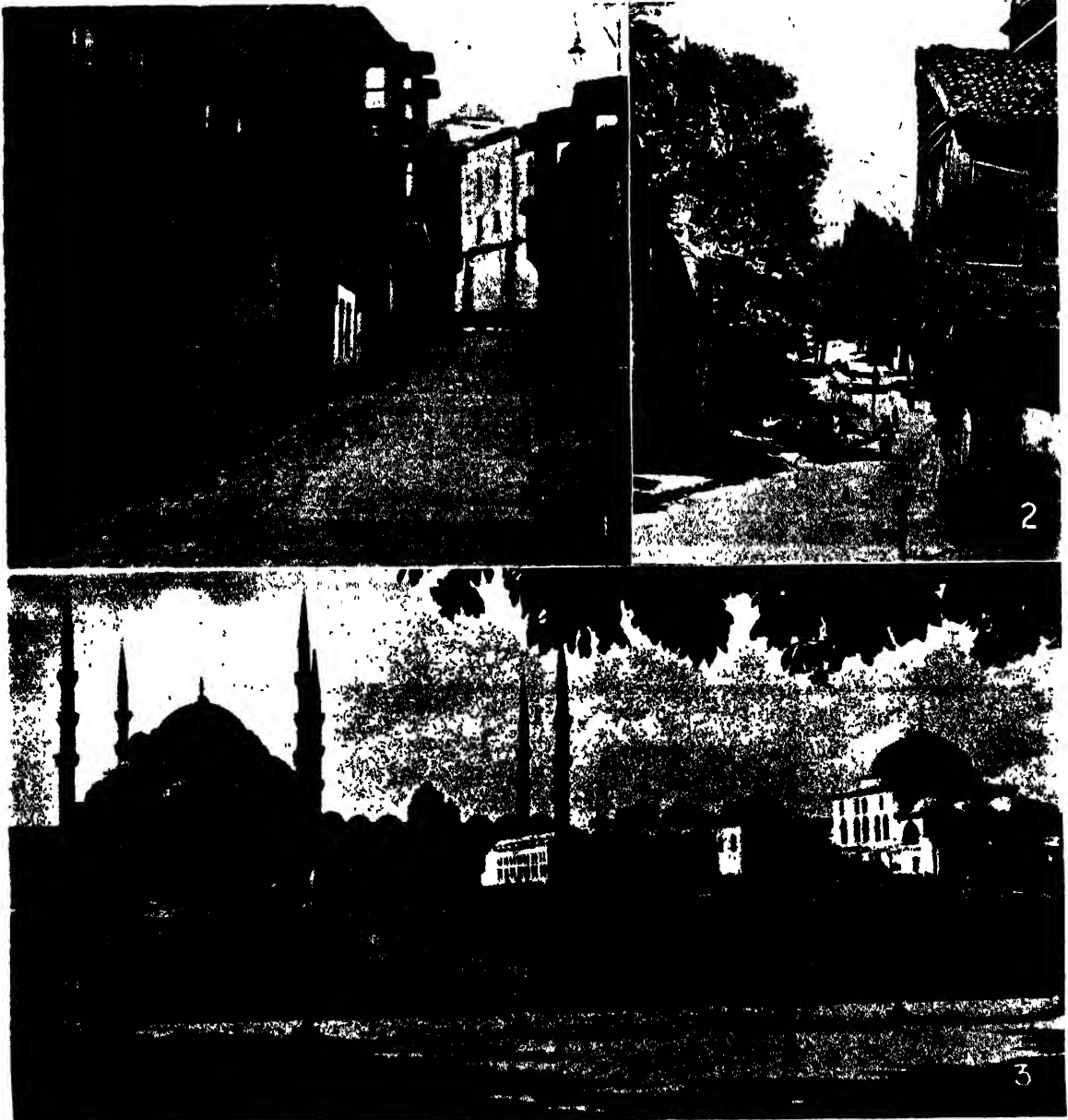
Photos: Turkish Press Department

buildings and the various Embassies and Legations.

Ankara has many new and excellent buildings, including an exhibition hall, stadium, museum, banks, institutes and a fine head office of Halk Evleri (People's Home). Near the town is a dam (Chubuk Bendi) constructed before the war, which is the source of Ankara's water supply. Other buildings, including a wireless station, are under construction or have been completed recently.

During the summer the weather is very hot and dry, the thermometer reaching thirty-five degrees centigrade in the shade and sixty-two in the sun; in winter it is very cold and windy, the temperature falling to fifteen degrees centigrade. Although there is so big a difference between summer and winter temperatures, Ankara's climate, though very exacting, is healthy.

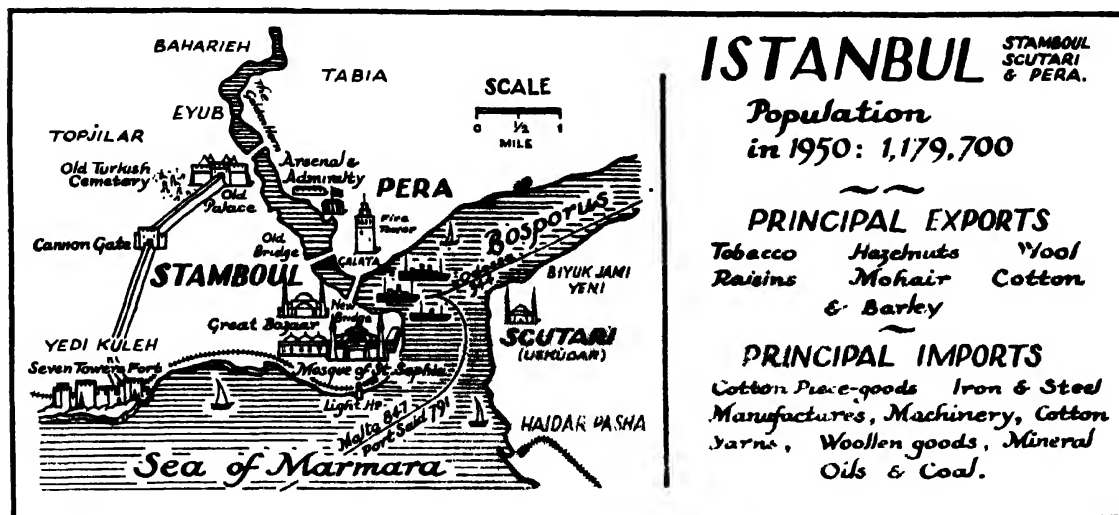
Ankara was, and is still, famous for its cats, rabbits, goats, mohair, honey, and pears. The



ARCHITECTURE, ANCIENT AND MODERN

1. In Stamboul. 2. Old buildings in Scutari. 3. The Sultan Ahmet Mosque at Istanbul

Photos: Orient Line; Blue Star Line; Turkish Press Department



Angora rabbits and cats, which are also called cats of Van, are well known for their very soft, long, white, and shiny fur. The cats, who have eyes of two different colours and a difficulty in hearing, are decreasing in numbers every year. The Angora goats are also well-known all over the world for their curled, very soft, and long hair. From this hair, which is called Tiftik (Mohair) is manufactured a thin, shiny, strong and fine material called Ankara Sofu, which is worn in the summer, and which used to be fashionable among the Ottoman Turks. The Government has specially asked people to breed these goats, because they are so fine and valuable. In 1936, the number of Angora goats in Turkey was estimated at about 3,193,000; by 1951, the number had increased to 4,370,000.

Other Towns. Istanbul (Constantinople), the former capital of Turkey, is losing both materially and spiritually to its young rival Ankara. Nevertheless, it is still a great city, especially from the historical point of view, possessing many historical and art treasures. It is set, too, amidst scenes of great natural beauty.

Other important towns are Bursa, the first capital of the Ottoman Dynasty, and well known as a watering place, a town of valuable historical buildings; Trebizond, the important port for trade between eastern Anatolia and Iran; Izmir (Smyrna) and Samsun, which are also important ports; and Edirne (Adrianople), Konya (ancient Iconium), Sivas, and Erzurum, well known for their historical remains and monuments.

Agriculture. Turkey's position with regard

to agriculture can be seen from the statistics given below -

Quality of Land	Hectares	Percentage of Whole Area
Lands ploughed and sowed yearly	10,491,211	13.76
Meadows, pasturages, pastures	44,329,423	58.12
Market-gardens, orchards, olive groves and wine gardens	1,120,740	1.47
Forests	9,169,859	12.02
Barren lands	11,162,367	14.63

The occupation of 75 per cent of the people is agriculture. With the exception of some parts of central, eastern and south-eastern Anatolia, the whole Turkish soil is quite suitable for cultivation. Especially her coastal regions, western Anatolia, Marmara, and Thrace represent her productive parts, and the Aegean district contains her richest land. For example, the famous Izmir figs and sultanas grow in the latter part, and the well-known Turkish Samsun tobacco and Giresun hazel-nuts are gathered from the Black Sea regions. However, there are still some parts which have not been fully exploited.

Industry. Except for foodstuffs, Turkey was for long obliged to import all manufactured goods, because of her insufficient industries, despite the fact that the country is well supplied with raw materials. In the past, these raw materials used to be sold at very low prices, and later the same materials returned to the country as manufactured goods for which a very high price had to be paid; particularly this applied to the textile raw materials such as cotton, wool, mohair, etc. Efforts to change

this have during the last few decades led to the modern industrialization of Turkey. The aim was quite clear; to use the national raw materials in manufacturing at home all goods, which Turkey needs, and thereby to stop the loss of national wealth. To make herself self-sufficient, Turkey adopted in 1934 a five-year plan for the development of these industries: textiles (cotton, wool, jute, etc.), mining (iron, semi-coke, coal, copper, etc.), cellulose,



THE MOSQUE AT SULEYMANIYE
Photo: Thos. Cook & Son, Ltd

paper, cardboard, and artificial silk, pottery, glassware, and chemicals.

This was highly successful and was completed ahead of time. In 1937 a second five year plan was introduced. Mainly concerned with mining and electricity, this plan authorized a number of new power stations to advance the 'Industrialization and Modernization of the Turkish Republic.' Plans were also formulated for the development of the Eastern provinces. Landed estates were to be broken up, new factories built and a vast programme for the construction of railways, bridges, hospitals and schools began.

In 1938 a four-year plan was drawn up. This provided for the immediate start of a general construction programme, dealing with all sides of economic activity. Two new harbours for the export of ores were to be built on the Black Sea, meat-packing plants, silos, dairies and canning factories were to be erected and new power plants were to be set up in the mineral mining areas to accelerate mining production.

Since the end of the war a Ministry of Labour has been set up, and the right of employers and employees to form trade unions has been recognized.

Such plans were indeed ambitious from a

country which not many years before had been enshrouded in all the traditional obscurity of the mysterious East, and whose women wore the veil. Yet such is the spirit of the new Turkey that such schemes can be undertaken and successfully completed.

The building up of the sugar industry in Turkey has resulted in the complete furnishing of the country's needs with a surplus for exportation.

The results achieved in industry within a period of some twenty years are extraordinary. To-day in every part of the country innumerable factories are growing up, and thousands of workshops are installed. It must not be forgotten that all these achievements, which occasioned so much sacrifice, expense and effort, were accomplished during a period in which the world was going through wars and economic crises.

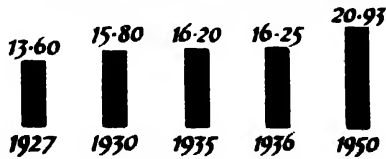
Railways. The construction of an efficient railway system has been a major task of the new Turkey in order to make possible the industrialization of the country. The total length of railways to-day is about 4750 miles, of which nearly 2000 miles were constructed during a period of ten years. All Turkish railways, which were built or purchased recently, are under Government control. The Mediterranean and Black Sea shores are already linked by railway. A vast development plan of new construction, formulated in 1947, aims to increase the total mileage by over 25 per cent, but this will probably take twenty years to accomplish.

Exports. Turkey's chief exports are tobacco, raisins, hazel-nuts, cotton, livestock, figs, eggs, barley, coal, mohair, olive oil, opium, chromium, wool, wheat, timber, vegetables, carpets, hides and skins, valonia, and rye. Therefore it will be clearly understood, as already mentioned above, that Turkey is an agricultural country.

Imports. In 1950, the total value of Turkey's imports was 799,859,000 £T, and the value of the corresponding year's exports was 737,586,000 £T. The 1947 figures were the first to show an excess of imports over exports since 1938 (in 1946 there was an excess of exports over imports to the amount of 210,103,000 £T). Thus for nine years, in spite of all the materials and machinery which Turkey was obliged to import to build her factories and complete her railways, she was able to balance her imports and exports to her advantage.

TURKEY

POPULATION in millions



Occupational Distribution

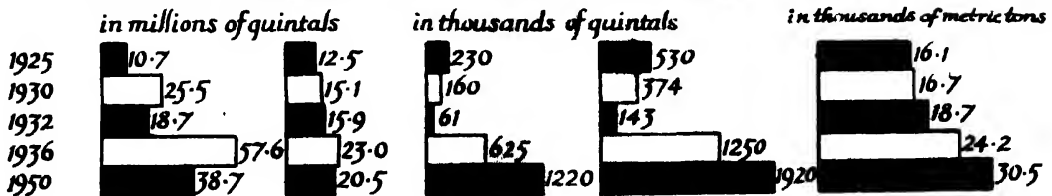
In percentages of total population employed

Agriculture 75

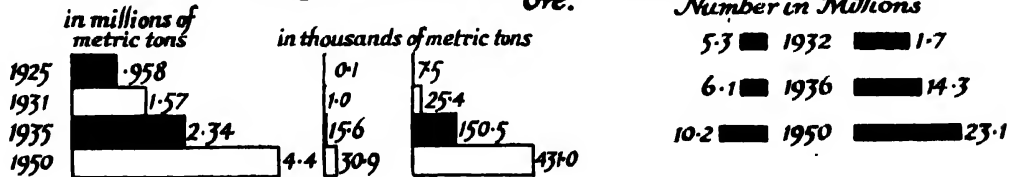
Industry 11
Commerce 4
Others 10

PRODUCTION

WHEAT BARLEY COTTON Cotton Seed WOOL



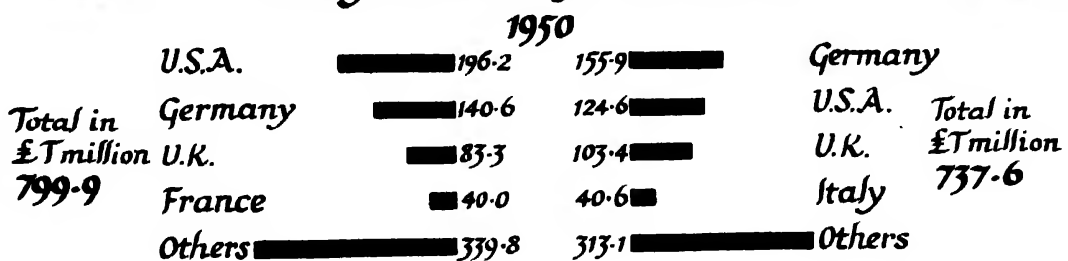
COAL Manganese Ore. Chrome Ore. CATTLE SHEEP



IMPORTS

Foreign Trade by Countries

EXPORTS



Principal IMPORTS & EXPORTS in 1950

in percentages of above totals

Cotton Goods 25
Vehicles 11
Machinery 11
Iron & Steel 10
Others 43

Tobacco 29
Cereals 26
Fruit 15
Nuts 9
Others 21

The New Alphabet. Among the many reforms that Turkey has undergone, the most important and far-reaching was undoubtedly the changing of her alphabet. In 1928, the new Turkish alphabet was introduced, and the old Arabic characters which had been handed down throughout the ages were discarded. The great value of this step, which renders Turkish easier to learn by present and future generations, and therefore enables foreigners to become much more familiar with it, is too great to estimate. Before the introduction of the new alphabet, only Istanbul, Izmir, and some other main towns had newspapers, but to-day the local paper will be found in every district.

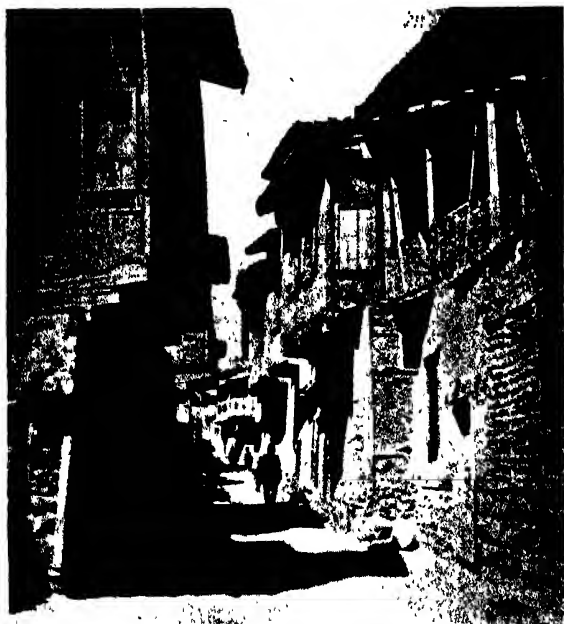
Religion. As a result of the ignorant and fanatical Hodja's (priest's) mischievous and egotistical suggestions, religion in Turkey formerly aimed at a deep fanaticism, especially among the essentially superstitious peasants. In this way religion gradually spread over the whole country and permeated even into Government affairs, until control of this machinery was gained. As a result any development was made impossible and any progressive influence was refused by powerful religious authority. The republican administration began its religious reform with divisions between earthly and heavenly matters. The official religion of Turkey was Mohammedanism, but

everyone is now absolutely free to pursue his own religion, though to use it for intrigue is barred, so that the repetition of a government by fanatical priests is now impossible. Religion and administration are, and will be, kept completely separate.

Women. In former times, the woman in Turkey was always regarded as inferior to the man. But, since the adoption of the new Turkish Civil Code, which is based on the Swiss Civil Code, the Turkish woman stands on equal terms with the Turkish man. The woman in the Turkey of to-day has secured her absolute independence and liberty, can serve in any social or Government office, and can choose whatever profession she may like. She has the right to vote and to take her place as a member of Parliament. In the Turkish Parliament and in some Municipal Councils there are already several women members.

During the last twenty years, the number of Turkish girls educated in schools of higher study has increased year by year to such an extent that now one can meet in every district of the country women who are doctors, lawyers, or Government officials; yet only thirty years ago, with the exception of a small number of women teachers, there was no woman to be seen either in the Governmental or in the social service. The girls of the new generation, whose mothers were obliged to lead their lives in seclusion at home, to-day study anatomy in the same class as male students. The present-day Turkish woman, without any form of compulsion, has laid her veil (*Péché*) aside, has taken off her mantle (*Charchaf*) for ever, and now wears European dress.

Turkey and the East. As already mentioned, Turkey has undoubtedly gone through many remarkable changes and reforms during the past thirty years. At the present time, any Turkish town such as Ankara, Istanbul, Izmir, etc., looks much the same as any Western city. If a visitor wants to see something of the old characteristic Turkey, he must explore far into the hinterland, in small isolated villages, far removed from the chief towns, where old Turkish customs still linger. In the cities and among the coastal parts, all traces of the old Orient have been eliminated, giving way to buildings of modern type. To the foreigner, who loves the East as it was, these changes may appear undesirable, but to the Turkish nation these great reforms have been a glorious, far-reaching event, of which Turkey is proud. New Turkey will perhaps disillusion all those people



ANKARA
A typical street in the old city
Photo: Krystone

whose minds have been trained to think of Turkey, through the agencies of the old travel or history books, as a backward and essentially Oriental country.

There are many visitors to Istanbul, the great majority of these being Americans, and the chief points about which the latter always appear to be interested are (1) The Great Bazaar, (2) The Yildiz Kiosk, and (3) The Harem.

It is really surprising how these people come from so far at so much expense and trouble to satisfy their curiosity with regard to Turkey on these three relatively unimportant things alone, when the historical buildings and rich museums are so infinitely more absorbing. In reality, the Great Bazaar is nothing else than a business quarter of the old capital, a covered section of the city, a small part of the centre of Istanbul, comprising a few streets both sides of which are made up solely of shops. Nobody lives in this part of the city, and one can see this type of bazaar at Cairo, Damascus, and other old Oriental cities.

The Yildiz Kiosk is the name given to the residence of the former Sultan's Palace, which is composed of some pavilions and chalets, parts of which are now occupied by the Academy of War and the Police School, where future staff officers and policemen are trained.

It is necessary to write a little more fully of the Harem, because the majority of people outside Turkey have a completely wrong conception or certainly a very exaggerated idea of its meaning and purpose.

The average foreigner's idea of a "Harem" would be approximately something like this: A house where a large number of women—wives and girl-slaves—spend their lives and have no intercourse with the outside world. But this is quite wrong. To the Turkish people the Harem had this special significance: the Harem was nothing more than a private apartment, simply a part of the house—for example, composed generally of a bedroom, sitting room and lounge—where the master of the house, his wife and their children could



THE BOSPORUS

Wooded cliffs looking towards Istanbul

Photo. Thos. Cook & Son, Ltd.

lead their own life. Such kinds of Harem exist in some Turkish homes and the life in that Harem, from the point of view of the Turks, meant absolute privacy. No one, except the parents, near relations and female visitors only, was permitted to visit this part of the house. Thus, the Harem conveyed to the Turkish mind nothing more than the word *Harim*, which can be simply translated as "privacy." All male visitors were received in another part of the house, which was called the *Selamlık*. In former times, large houses which were generally divided in this fashion as Harem and *Selamlık* were called *Konak*. In the old part of some Turkish towns, one can still see houses which belonged to that period.

Harem life has no connection whatsoever with multiplicity of wives or women slaves, and it means just the same to men who have only one wife. Polygamy is by law absolutely prohibited in modern Turkey.

About forty or fifty years ago, when the Turkish woman still wore her veil, such customs, namely having the house divided into two parts such as the Harem and *Selamlık*, were in practice. But the social and economic

conditions of to-day do not permit the continuation of such Konak life. The imaginary Harem of the foreigner may exist in the Orient, but it has long disappeared from Turkey.

To the people who wish to study the enormous changes that have taken place in Turkey in the last years, or to see Turkey's natural beauty and her historical or archaeological

wealth, one can say "Come to Turkey!" for they certainly will not be disappointed. But to those who intend visiting Turkey with visions of it as a land of the Harem or eunuch, of a nation whose men wear the fez and whose women are veiled, it is best to say "Do not trouble!" for most assuredly will they be disillusioned.

Syria and Lebanon

GEOGRAPHICALLY Syria, Lebanon and the former Palestine are one, even if politically they have gone their separate ways. A coastal plain, the eastern shore of the Mediterranean, runs almost without a break from Latakia in northern Syria to Gaza beyond Israel's border—over 400 miles. The Syrian-Lebanon portion of this coastline (nearly 300 miles) has a number of old fishing harbours which were once flourishing ports—such as the ancient Tyre and Sidon—and one great modern port, Beirut. The plain itself is very narrow, especially in the south. Immediately behind, to the east, is a range of mountain land, rising to 10,000 feet in northern Syria and to some 8000 feet in the Lebanon, where it divides into two ranges, Lebanon and Anti-Lebanon. The cleft between these ranges is the watershed of streams flowing northward (the Orontes) and southward (the Litani), and is the same deep cleft which is continued down through the Sea of Galilee (Lake Tiberias) and the deep Jordan Valley to the south of Israel. But whereas to the east of the Kingdom of the Jordan there lies only the dry Arabian desert, Syria's mountains fall in a series of long steppes for 160 miles towards the Upper Euphrates, and this steppe-land has a multitude of streams and rich oases, such as the traditionally fertile land around Damascus.

Ancient Syria herself developed agriculture, industry and art to a high degree, but curiously enough usually under the influence of adjacent cultures—Babylonian, Egyptian, Aegean or Greek. Here, as in the case of the former Palestine, the reason for her strange history is that Syria lies at the meeting-place of East and West, with no sure foot in either.

Climate and Crops. The same is true of Syrian climate, its flora and fauna, and of the races which have developed it in the past and which live there to-day. On the coast and in

the mountains of Lebanon rain is plentiful and the climate moderate. In the wide plains around Damascus and east of the mountains, the desert brings hot dry winds and sand storms in summer, while frost and snow sweep across the steppe-land in winter—the high mountains being covered by eternal snow. The coastal plain, the western slopes and the irrigated area around Damascus can grow almost every kind of tree and vegetation; while east of the mountains the dry and thorny land is very bare, yielding spring pasture around the scattered oases, but very thin cereal crops.

The population is perhaps more dominantly Eastern than "Mediterranean." The indigenous "Syrians" (a mixture probably of Arab and south-eastern European stocks) have been constantly reinforced by Arab blood, while in the desert of Palmyra and the steppe-lands are many pure Arabs. In the coast-towns, however, are large communities of Greeks and Armenians, together with Kurds and other races from Asia Minor and beyond the Caucasus.

In 1941, after twenty years of French mandatory control, both Syria and Lebanon were proclaimed independent republics. The area of the former is 72,000 square miles with a population of approximately 3,250,000, and that of the latter about 3500 square miles with a population estimated at 1,250,000.

Although both countries are, for this part of the world, potentially fertile by reason of their water-supplies and climate, agriculture is still backward. In Lebanon only about 20 per cent and in Syria only about 10 per cent (including the rich Hauran country to the south-east) raises crops—mainly wheat, barley and millet—the remainder being treated as more or less sporadic pasture land. The most important signs of modern agricultural enterprise are the cultivation of tobacco (now quite

extensive) and the development of cotton growing. Dates, oranges and lemons and even bananas are also grown, but not on a large scale.

Trade Routes, Ancient and Modern. It was of course as a great commercial centre that Syria was famous in ancient days, and this is true, though in a different way, to-day. In the early biblical days, Syria lay on the "fertile crescent" caravan route, carrying goods up the Euphrates, and down the coastal plain of Syria to Egypt. Later its ports expanded, and the Levant was the link between the

mosques, the fountained courtyards and cool alleys keep alive the old Damascus, proud capital of a great Empire. Damascus is still the centre of "caravan" routes, but now the "camels" are the coaches, which link Damascus with Israel and Jordan to the south and Baghdad to the east, and the aeroplanes which join the Eastern to the Western World. The population of Damascus is about 335,000, a figure which represents an increase of some 20 per cent on the pre-war total.

Of the two other great caravan towns of



SYRIAN AND LEBANESE SCENES

Left A village in the Kharbour region. Two cupolas represent one house, each of which has a separate entrance and a single window.
Right Unloading a freighter in Beirut Harbor.

Photos, Fox, Keystone

caravans of the East and the ships and travellers of Europe. To-day, Beirut (Lebanon) and the growing Latakia (Syria) are noted commercial centres, though the importance of Beirut as the port of the eastern Mediterranean has been lessened recently by the growth of Jaffa and Haifa. These ports are still international markets, containing every type of man and merchandise, the traders famed for their knowledgeable ways and obscure influence in many fields—the traditional "Levantines."

Quite different is the character of the inland market towns, notably the ancient Damascus. Here the bazaars have the ease and richness of an ancient civilization. Beautiful silks, jewels, delicately carved furniture, perfumes and sweetmeats are displayed with lavish and traditional luxury. The splendour of the Great Mosque, the profusion of smaller

former days, one, Palmyra, in the heart of the desert, has dwindled to nothing, while the other, Aleppo, is still important as an industrial and market centre, with a population of over 350,000, and connected by rail and motor bus with Meidan on the Turkish frontier to the north and Damascus. From the ruins of a city like Palmyra it is hard to imagine how important were these distant oases in ancient days. To-day the desert has overtaken almost the whole of the vast area east of Damascus.

The magnificent classical Temple of Baalbek (Lebanon), the monuments and inscriptions going back to the Hittites that have been unearthed on the old Phoenician coast, as well as the striking biblical beauty of Lebanon and Mount Hermon, serve to remind us more directly of the departed glories of this region.

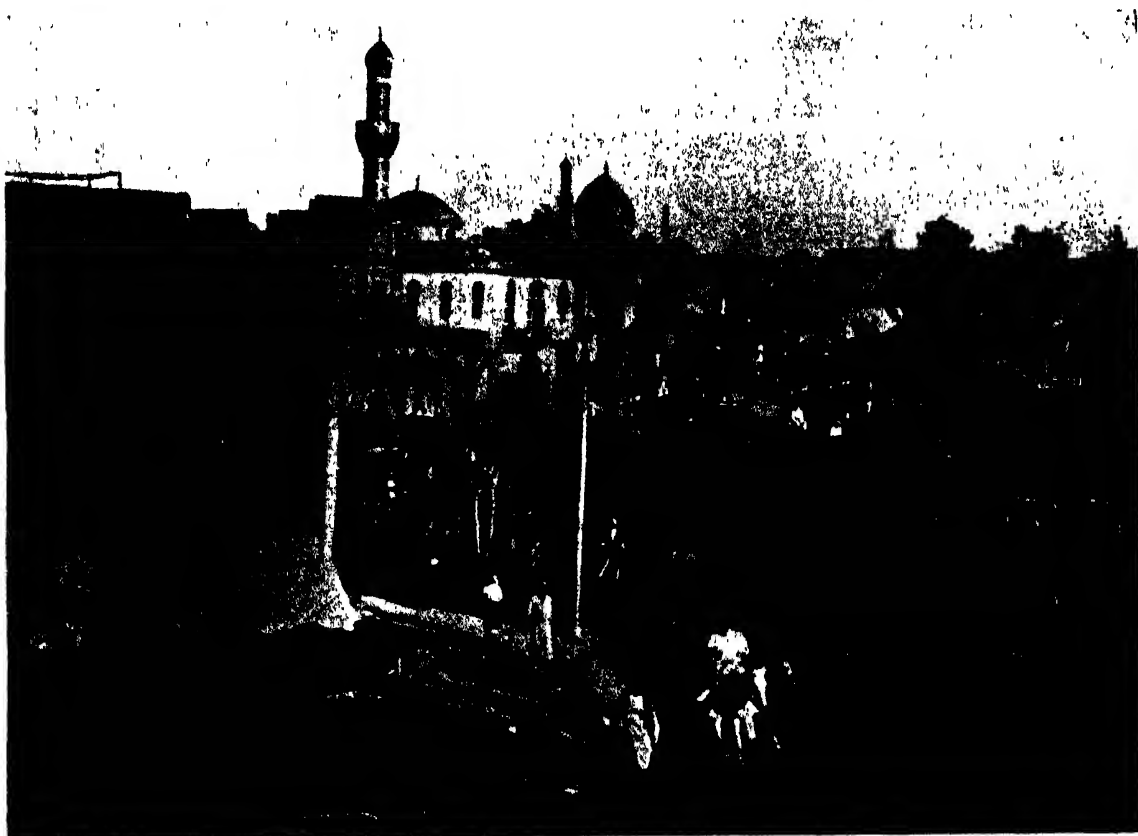
'Iraq

IT is customary to divide the productive areas of 'Iraq into three well-defined geographical formations. First is the great plain impinging on the two rivers, Tigris and Euphrates (whence came the former name of the country, Mesopotamia). From this derive most of 'Iraq's agricultural products, dates, cereals, rice, cotton, and so on. Next is the area of the foothills, north of Baghdad. In this area is to be found the bulk, at present, at any rate, of the land's apparently inexhaustible supply of oil. And lastly is the mountainous region of the far north and north-east, stretching into Turkey and Iran. Here grow fresh fruits of almost every description.

The rest of the country, covering a very considerable region to the west of the rivers, is desert. This desert, is particularly vast

to the west and south-west of the Euphrates, where it merges imperceptibly into Arabia, Jordan, and Syria.

The People. Sociologically, 'Iraq has, broadly speaking, a quadruple division. There are the townsmen, primarily engaged in business; there are the peoples of the hills; there are the fellaheen, peasants, the riverain cultivating tribes; and there are the Bedouin, or nomadic tribesmen. The ratio between these divisions is not fixed. For instance, there is a sensible tendency for nomads to settle on the land—a tendency fostered by the 'Iraq Government, which strives to hasten the process by boring for water in the desert, and thus to enable the nomads to gather permanently round an oasis. Such a discovery of wells has been notably successful in the Shammar country to the north-west of Baghdad.



THE CITY OF BAGHDAD
New Street, Baghdad, looking towards the Citadel from the North Gate
Photo: Taitel



THE WEALTH OF THE COUNTRY
Drilling an oil well in one of the wealthiest mineral districts of the Near East
Photo: 'Iraq Legation

Manner of Life. The manner in which these four different classes of society live is worthy of note. In the towns, the social revolution of the last few decades has wrought more changes than were perceptible during several centuries previously. The desire for Westernization has swept over the people, both male and female, and discontent with present conditions has had the not surprising result of inclining citizens to talk of the glories of the past Arab civilization and to resolve to build them anew. The family traditions still tyrannize over town life in 'Iraq. The woman is still in her centuries-old position of subservience. But the younger generation of townsmen and townswomen is steadily becoming imbued with Western social ideas.

The people of the hills, where they are settled, live for the most part not far from the borderline of existence. Their houses are of mud with timber roofs. Bread and curds are their principal food; luxuries consist of meat, sugar, and tea. The water supply is perennial, but the fertility of the soil varies. They work as shepherds, foresters, or ploughmen. But so long as they have peace, they are happy. The mountain nomad, naturally, has a different life. He drives his flocks from pasture to pasture, and lives never under a roof but, like the Bedouin of the desert, in a black tent.

Most of the Arab Bedouin of 'Iraq are to be found on the steppe land north-west of

Baghdad between the Tigris and the Euphrates and in the deserts south-west of the Euphrates. They breed camels, sheep, and horses. The existence of grazing and water alone dictates their movements. Their free, open life is the dream of the romanticists, but is a subject of contempt among the settled Arabs.

But in addition to this general division of society there is a bewildering variety of races. 'Iraq is, of course, predominantly an Arab country. But within it there are a Kurdish minority, non-Arab Christians, even Iranians (Persians), and many other peoples. Yet these smaller peoples all fall into the main categories of townsman, peasant, and nomad.

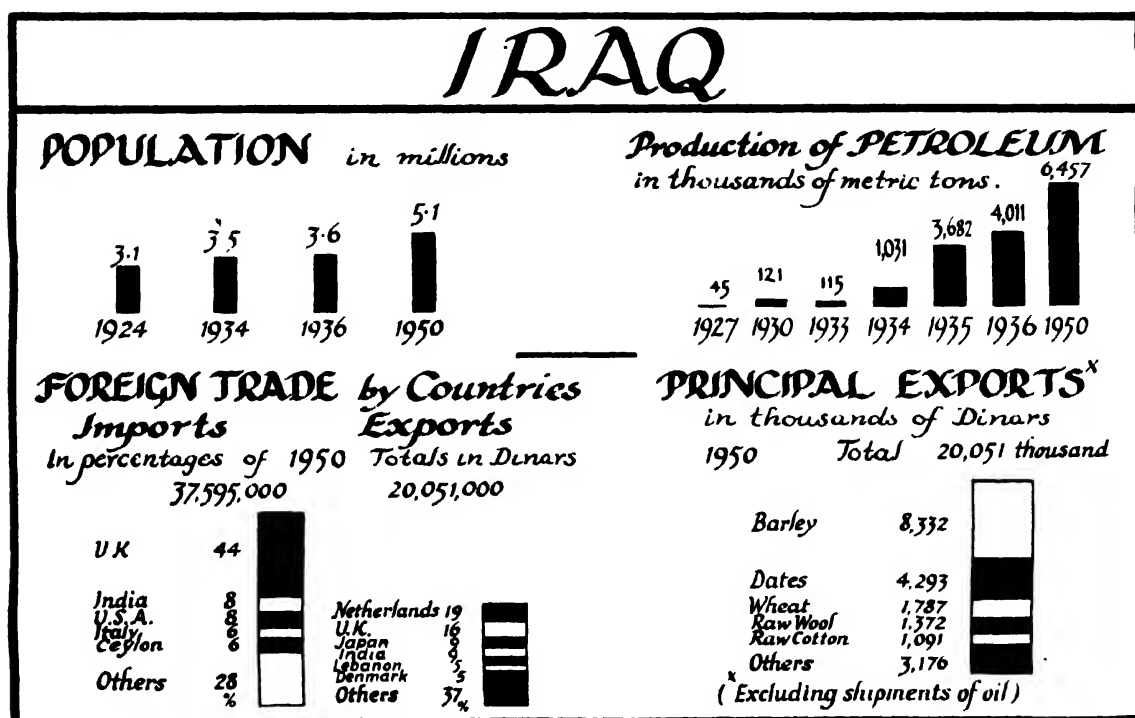
Relics of Past Greatness. Before the coming of the Mongol to 'Iraq, the land was rich and prosperous, and must have had a far denser population than it has to-day. One cannot travel far in the country without coming across derelict canals, traces of an extensive system of irrigation—such traces being even more evident from the air than when travelling on the ground. This system the Mongols destroyed; the Turks, their successors, did little to renovate it. Attempts were made even before the 1914-18 War to regenerate the land, and the services of an eminent British engineer, the late Sir William Willcocks, were called in by the Ottomans, notably in connection with the great Hindiya Barrage on the Euphrates, which was completed a few months before the outbreak of hostilities.

Modern Agricultural Development.

Even to-day there is considerable poverty among large sections of the hospitable population. The countryman, whether he is growing tobacco in the mountainous north-east, or dates in the central plains, seldom has much to spare. He still has, moreover, natural forces to contend with which are beyond his control. Locusts may attack his crops, or drought, or floods, and resistance to such attacks is beyond any individual endeavour. It is small wonder,

must come and the opportunity must be given by the Central Government, which is certainly alive to the improvements that might be made in 'Iraq's agriculture, but which cannot be expected to transform the face of the country in a generation.

Perhaps the most notable example of the 'Iraq Government's enterprise in this particular direction is afforded by the building of the vast Kut Barrage, a scheme designed to irrigate thousands of acres of hitherto waste land.



therefore, that apart from a few modern improvements, such as irrigation pumps, the example provided by model farms, and the advice arising from constant discussion with other States suffering from similar ills, the 'Iraq countryman carries on life much in the same way as did his forebears.

Often it is supposed that adherence to traditional ways is the product of Arab fatalistic philosophy—that since all things are from Allah, it is useless to forestall or stave off the inevitable. This is an exaggerated view. The Arab husbandman is both alert and intelligent. He is very ready to take advantage of scientific innovations if they are within his reach. Unfortunately (with the exception of land pumps, the fuel for which is provided by the country itself) they are seldom so placed. The initiative

With irrigation, it has been said, 'Iraq might become a second Egypt. Possibly; though the salts in the soil forbid the prospect of its rivaling Egypt as a cotton country.

Even so, 'Iraq's agricultural products are known to-day more widely than ever before. Her dates might be better packed, and co-operation between date-growers still leaves much to be desired: yet she produces over 80 per cent of the world's consumption of this commodity. Both her wheat and her barley are exported, and, too, her hides and skins. For her wool Japan had become the latest customer before the last war. Her potentialities are assuredly immense.

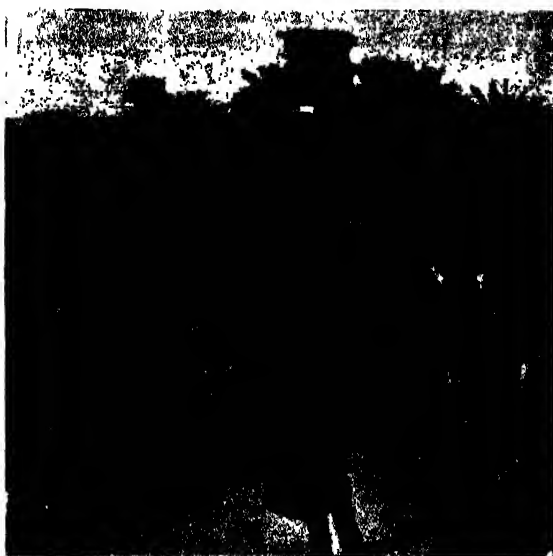
Industries. Agriculture is unquestionably the backbone of 'Iraq. The country has no major industries, apart from the exploitation



THE HERITAGE OF 'IRAQ

1. The Arch of Ctesiphon. 2. An example of modern architecture, the Kaur-el-Zehoor. 3. Ruins of the walls of old Baghdad.
4. An ancient mosque of a holy shrine. 5. Minaret known as the Malwiyah (spiral) of Samarra, once the capital of the Abbasides Empire, built at the time of Chalif Mutassim

Photos: 'Iraq Legation; Topical



BEDOUIN TRANSPORT
Bedouin women bringing "jehan" (sour milk) for sale in the market
at Baghdad

Photo: Topical

of her oil. Yet attempts have been made to modernize industries which for centuries have been of the cottage variety—such pursuits as weaving, tanning, and dyeing. Protection, moreover, has been given to various industrial enterprises in such fields as those of tobacco, silk, and alcoholic liquor. Factories have been established for the manufacture of textiles, bricks, and soap, and, in general, the sale of local products is actively encouraged by the Government, which from time to time arranges exhibitions of 'Iraq manufactures. Yet on the whole it may be said that 'Iraq industrialists produce for local consumption; manufactured goods figure negligibly in the list of exports.

Petroleum. The development of 'Iraq's oil industry almost deserves a chapter by itself. Whatever disappointments 'Iraq industrialists and agriculturists may have endured, those who pinned their faith on the existence of oil have been abundantly justified.

In the "Transferred Territories" area, on the far north-eastern border, the Khanaqin Oil Company is producing regularly, providing, notably, the fuel for the pumps to which reference has been made. But the main source of 'Iraq oil (and the main source for the Government's exchequer) derives from the oil to the north of Baghdad. There, an international company, the 'Iraq Petroleum Company (consisting of British, French, American, and Dutch interests) enjoys a concession.

The original concession to the I.P.C. was for the land east of the Tigris, the land to the west of this river and north of the 33rd parallel of latitude having been awarded to the British Oil Development Company.

By the end of 1952, oil was being sent from the oil fields near Kirkuk (they are reputed to be among the richest in the world) at the rate of approximately 14,000,000 tons a year. It is pumped through a pipe line 560 miles long from Kirkuk to Banias, a sea terminal on the coast of Syria. Here it is discharged into tankers which transport it to various refineries.

With a diameter of thirty inches this pipe line is the largest in the world. The flow of oil is maintained at a high pressure by a number of booster pumps placed at convenient intervals along the route.

Communications. From being something of a backwater, 'Iraq is likely to become a general centre, and to the importance of communications the authorities are rightly sensitive. They have built many miles of metalled roads, and though they have to



TRADE ON THE TIGRIS
Unloading brushwood from one of the river vessels near Baghdad
Photo: Topical



THE STAPLE CROP OF 'IRAQ

The growing and export of dates is one of Iraq's most prosperous industries. 1. Packing dates at Basra. 2. One of the date forests. 3. Pollinating a date tree for greater fertility

Photos: 'Iraq Legation

support a railway system which for the most part was designed for the needs of the British during the Mesopotamian campaign of 1917, they have at any rate prolonged the line, in the east, to the frontier of Iran, and the line has been extended northward from Baghdad to Tell Kutchuk on the Syrian frontier, there to link up with the *Baghdad Bahn* through the Taurus Mountains and so to Europe.

It was a dream of the late King Faisal that a railway should be built across the desert to the Mediterranean coast. This project has apparently given way to the idea of an all-weather desert road instead. At one time the 'Iraq Government enjoyed a free zone at the port of Haifa, and a quite appreciable volume of traffic found its way from 'Iraq to the western Mediterranean lands. "Tigris salmon," for example, was by no means an unknown delicacy in Jerusalem, and lorries were frequently to be seen wending their dusty way across the desert laden with sheep and chickens.

As for aerial communications, 'Iraq is well served. The Baghdad Civil Port is one of the finest, and the third largest, in the world. Baghdad is on the direct route for all the great

European air services, and is incontestably the "Clapham Junction" of the air. In the spring of 1938, moreover, a splendidly equipped airport, considered to be one of the best between London and Singapore, was opened at Basra.

The Cities. There have indeed been such changes in 'Iraq as would make an ancient visitor rub his eyes. In nothing has this change been more startling than in the growth and development of the three large cities of Baghdad, Basra, and Mosul. Baghdad still has its



PRIMITIVE TRANSPORT IN 'IRAQ

Curiously shaped boats, called goofas, used by the natives for carrying food from one village to another. They are covered with pitch to make them waterproof

Photo: Sport and General

bazaars, its cafés, its arabanas (horse-drawn vehicles), its bellums and goofas (primitive boats) on the Tigris, its prehistoric fishing methods, its beggars, and so forth. But it has also fine, wide streets, modern buildings, hotels, sanitation, taxis, cinemas. It has progressed with particular speed during the last few years. The fusion of East and West in the "City of the Caliphs" may be incomplete, but the West has come to stay; every week it gains over the past.

Similarly Basra, where there is a magnificent port, possessed of a more humid climate than Baghdad, is another hive of industry. The Basrawis are a very adaptable people, quick to enjoy the amenities of civilization.

Mosul, too, though hitherto less on the direct route of communications in 'Iraq, has gone ahead, even if political considerations have inhibited its progress to some extent.

Patently, however, with the linking up of the Turkish with the 'Iraq railway system, Mosul is destined to play a more and more important part in the life of the 'Iraq nation.

Nor has this forward movement in the towns been confined to the capitals of the respective provinces into which the Turks divided 'Iraq and which have been preserved under the independent Arab regime. Kut-al-Amāra, for example, of tragic memories for the British, is now a largely modernized city. Considerable improvements have been made in such previously neglected centres as Kirkuk and Sulaimani. The whole country pulsates with a desire for advance, and though, given the fickleness and individualism of some Arabs, optimism should have no place in a detached survey, the Western observer may at least hope that 'Iraq will triumph over her internal difficulties.

Iran

IRAN, the country which is nowadays more often referred to as Persia, owes its long history as a separate and independent state largely to its isolated position. On the west it is bordered by high mountains with rare passes, on the north by the Caspian Sea, on the east by an inhospitable desert, and on the south by the Arabian Sea. Iran is a tableland ranging between 2000 and 3000 feet above the sea-level. This tableland is for the most part without natural vegetation and has hardly any rivers worth the name. The only navigable river, the Karun, in the south, is short and narrow.

The towns of Iran are, relative to the size of the country, few and far between; one may travel for hundreds of miles on the high roads between these towns without encountering even a village; and, since the introduction of motor-cars and the abandonment of horses and carts, human habitations have tended to become rarer than ever. Caravans are still to be met with in remote districts, and for these a certain number of the old *cāravanserais* have been preserved.

The Iranians have a great love for trees and flowers, and especially for formal gardens, which predilection may be partly due to the natural barrenness of their country. The Persian Garden is one of the most delightful

prospects in the world. The key-note to a fine garden is the central pool, which varies in size from a small basin to a large reservoir, and is fed by runnels bordered by rock plants. Round this border are alternate pavements and flower-beds, and beyond these are delicate trees, the commonest being fruit-trees, flowering shrubs and planes. Usually these gardens are approached by an avenue of tapering poplars. A large garden is generally surrounded by a high wall, which protects it from the wind and allows one to forget the barren, dusty, waterless world outside. The favourite flowers of the Iranians are the rose and the tulip—the latter was indeed originally brought to Europe from Iran. These two flowers form the main theme of the lyric poets, coupled always with the sweet-throated *bulbul*, or nightingale.

Thus the towns and villages of Iran possess for the traveller a special charm, not only by reason of their beauty but also because of the marked contrast they offer to the surrounding landscape. It must, however, be realized that the barren, rolling hills and downs of the Iranian upland, aided by the pure atmosphere of an arid climate, offer vistas of great beauty and produce effects of colour of unsurpassable charm.

Iran, it must be remembered, has, in the course of its long history of two and a half

millenniums, had more than a dozen different capitals, and, seeing that it has lain on the main route of many great conquerors, most of her ancient cities have been laid in ruins once, some of them many times over. Thus we must not expect to find in the former capitals—excepting only in Ispahan—anything that recalls their former glories, beyond a few derelict mosques or forts.

Perhaps the ruins which best represent the

Qum and Meshed, each of which is famous for one or more beautiful mosques, old bridges, or castles.

The Cities. Teheran, the present capital, is a comparatively new city, and is rapidly becoming a modern town. Its site at the foot of the Elburz Mountains, commanding a full view of the snow-capped Demavend (18,600 feet) lends itself readily to development, and with its public squares, wide avenues, palaces



AN ARTIFICIAL MOUND BENEATH THE MOUNTAINS OF IRAN, NEAR TEHERAN
The foundations of an ancient Parthian temple have been discovered during excavation on the site

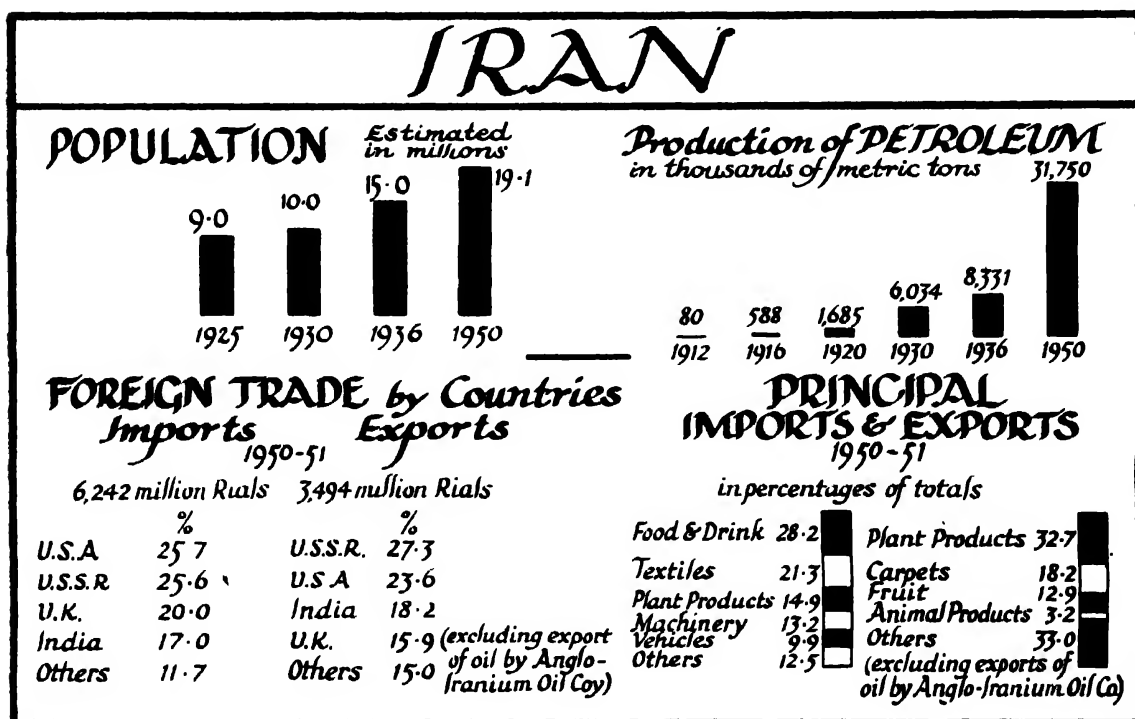
Photo • Keystone

splendour of their past are those of Persepolis; though burnt to the ground by Alexander the Great, those few long, slender columns, massive gateways, and beautifully carved friezes which yet remain still command the admiration and wonder of all who see them. The old Elamite city of Susa (the Shushan of the Bible), in the south-west, has yielded some of the most beautiful treasures of art found in Iran.

Many beautiful ruins are to be found in spots where little else remains of the town for which they were built, as, for example, in Nayin, Viramin, and the like. Of the still flourishing cities of Iran must be specially mentioned Ispahan, Shiraz, Qazvin, Tabriz,

and mosques it possesses great dignity. The main shopping street is the famous Lalazar, where many varieties of European goods, including the latest fashions from Paris, may be seen. There is also now a museum where some of the recently found treasures of Iranian archaeology are displayed, notably the golden tablets placed by King Darius on the foundations of Persepolis which, after being buried for over 2000 years, look as if they were cut only yesterday.

Ispahan retains more monuments in good or fair state of preservation than any other city, because of the attention paid to it by Shah Abbas the Great, whose capital it was



from 1600 to 1628, since when it has escaped destruction at the hands of an invader, though it was badly treated in the eighteenth century by Nadir Shah. The centre of the city is the *Maidan*, or Royal Square, which measures 560 by 174 yards. There are two fine bridges spanning the river, one of which is 338 yards long and thirty feet wide. The famous Chihil Sutun, or Forty Columns, is a vast open throne-room supported by wooden columns. There are several beautiful mosques, the most famous being the Friday Mosque built in A.D. 755, and the Shah's Mosque built by Shah Abbas in A.D. 1612.

Shiraz is famous for the tombs of two of Iran's most famous poets, Sa'di and Hafiz.

Qazvin was for eighty years the capital of the Safavids. It possesses few old buildings, and under the present regime it is being rebuilt on modern lines.

Tabriz was the capital of the Mongol dynasty of Iran in the thirteenth century, and the residence of the heir-apparent during the Qajar rule in the nineteenth. The Blue Mosque, undoubtedly one of the wonders of Muslim architecture, was almost entirely destroyed by earthquake in 1780.

Qum, which lies on the road from Teheran to Isfahan, contains an imposing shrine with an ornate façade and two tall minarets dedicated to Fatima, the sister of Imami Riza. It

is for the Shi'as second only in importance to Meshed, which contains the Holy Mausoleum of Imam Riza himself, and is the greatest place of pilgrimage in Iran. In this same town is the tomb of the great Harun al-Raschid.

Religion and Festivals. The Iranians are Muslims of the Shi'a persuasion, as opposed to the Turks, Egyptians, and others who are for the most part Sunnis, or orthodox Muslims. Ever since the beginning of the eighteenth century Shi'ism has been the state religion of Iran, which has from the first been its natural home.

One of the chief features of the Shi'a religion is the *Taziya*, or Passion Play, which is held annually in the month of Muharram all over Iran to commemorate the martyrdom of Hasan and Husayn, the sons of the Caliph Ali. The Passion Plays used to give rise to the most harrowing scenes in which performers and spectators alike were wont to gash themselves with knives. Under the present regime these spectacles have been discouraged.

The Shi'as are far less tolerant than the Sunnis, and until quite recently no infidel was allowed to enter their mosques. Nowadays visitors are even admitted to the shrine at Meshed.

The other great festival of the Iranians is the New Year, or *Nau-rūz*, which is celebrated all over Iran at the Vernal Equinox. This

festival dates back to the time of the ancient Zoroastrian kings whose deeds are immortalized in the *Shah-nama*, or Book of the Kings, of the great poet Firdawsi, who lived in the eleventh century. This great work, twice as long as the *Odyssey* and the *Iliad* put together, is the national epic of Iran, but it is based mainly on popular legends which have little relation to the real history of Iran until the narrative reaches Sasanian times (third to seventh century A.D.).

The Arts. The Iranians are as a nation devoted to poetry, and even the least educated among them are fond of quoting from Firdawsi and other great poets. Poetry is still cultivated in Iran, and many recent poets have reached a high standard.

In former times the Iranians were past masters of painting, especially in miniature. This art declined towards the end of the seventeenth century, but a revival is taking place, which offers much promise.

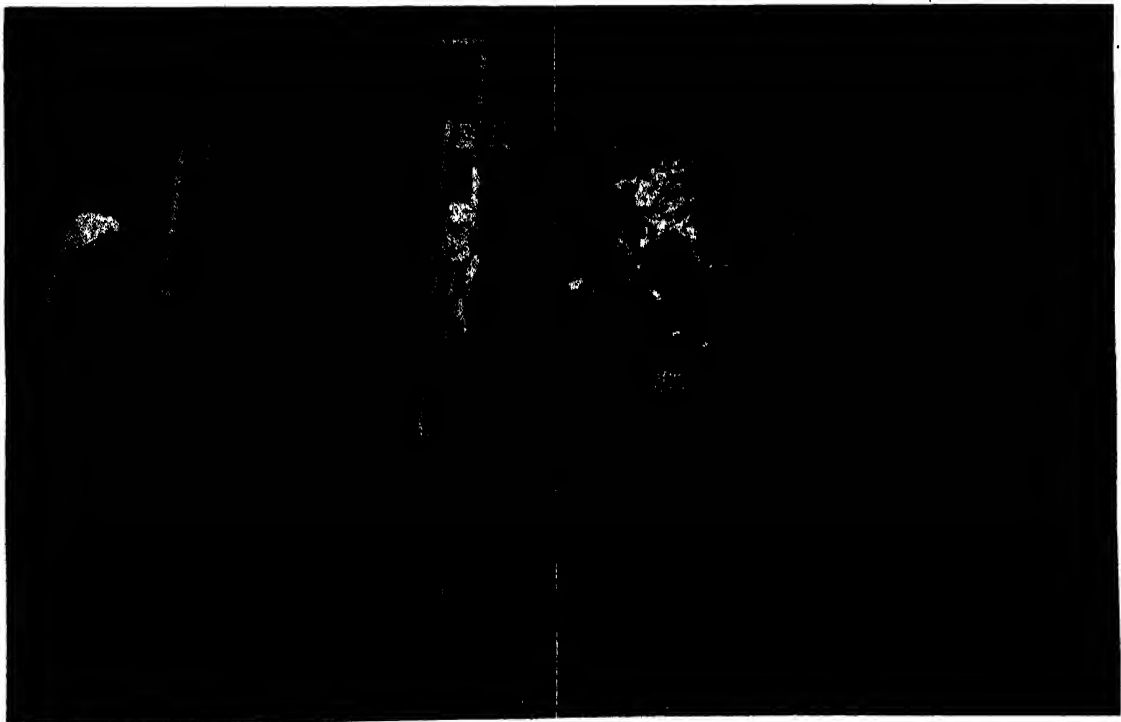
The other arts in which the Iranians have reached a high level of perfection are those of the textile weaver and the potter. Fine carpets are still made in Ispahan, Kashan, Hamadan, and elsewhere, but the genius for beautiful design seems to be at present in abeyance.

The art of making fine pottery and glazed tiles still exists, but the modern products do not bear comparison with the wonders of former days.

Petroleum. The chief industrial resource of Iran is oil, in recent years the subject of international dispute. The main centre of this industry lies in the foothills of the Bakhtiari Mountains near the head of the Karun River, while the greatest refineries are at Abadan near the mouth of the Karun, whence the oil is in normal times exported.

Agricultural Products. The climate of Iran varies from tropical to temperate, and the agricultural products are correspondingly varied ranging from tea to grapes. Wheat, barley, millet, and maize are grown throughout the country, but not in sufficient quantities to supply the needs of Iran in every district; this may, however, in time be remedied by the opening of more railways and new roads of communication.

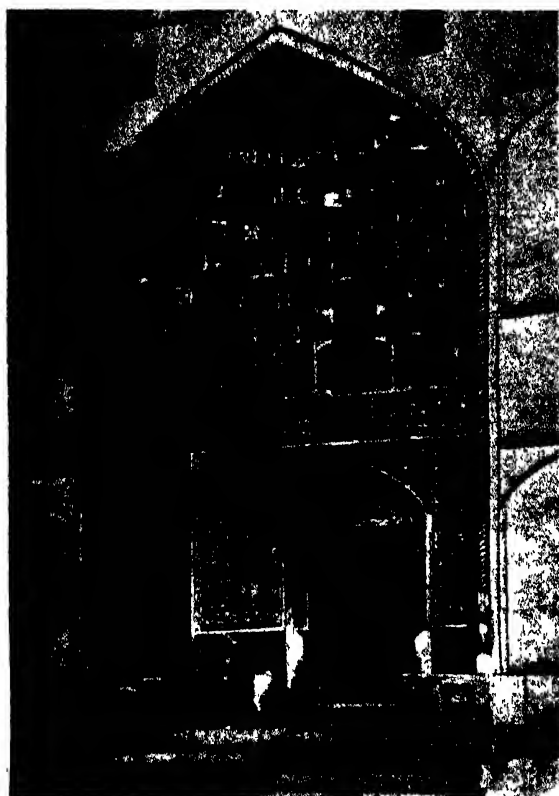
One of the staple crops of Iran is opium, which is easily and cheaply transported to the frontier, and finds a ready market. It is now a Government monopoly. It comes next in importance to oil, and provides a means of livelihood to a larger number of the people



IRANIAN ART AND LIFE

1. Iranian weavers with a Sarouk rug. 2. A nomad tribe. 3. Crossing a river on an inflated goatskin

Photos: Wide World; Photopress



ARCHITECTURE

The Masjed-Shirk Luft Ullah Mosque, showing inscriptions and mosaics in the dome of the portal

Photo: Wide World

than any other commodity except wheat. Next in importance come tobacco, cotton, silk and fruit, including raisins. A great effort is now being made to increase the production of sugar, and a number of factories have been opened.

Communications. Since the 1914-18 War communications have been entirely transformed. At the end of the last century there was hardly a single carriage-road in all Iran, and all transport was done by caravans and all rapid travelling on horseback. Nowadays the whole country is covered by fine motor roads which are kept in good repair summer and winter. Only just before the second World War the great railway from Bandar Shah on the Caspian to the Persian Gulf was begun, and in 1937 the first train from the north steamed into Teheran Station. Hitherto there had been only two small railway-lines in Iran, one running from Teheran to a shrine a few miles outside the capital and another from Julfa to Tabriz.

Accommodation, though it is fast improving, is not yet everywhere up to the standard to which most travellers are accustomed, but when one recalls the old days of

caravan and horseback travelling and the primitive *caravanserais*, when it took weeks to make distances now covered in as many hours, one must be thankful for many things while perhaps regretting others. Under the present regime a miracle has been performed in producing order out of disorder, and a well disciplined police where none existed before.

The People. Owing to many invasions from the north-east there has been a large admixture of foreign—mainly Turkish—blood, especially in the north-western provinces, but as a whole the Iranian of to-day is a clearly marked individual type of Aryan stock, representing a great race which, in spite of all vicissitudes, has never lost its identity, and has never been submerged by a conquering foreigner. Neither the Greeks, the Romans, nor the Arabs were able to impose on Iran their language or their culture; and if the Arabs were successful in replacing Zoroastrianism by the religion of their Prophet and in making the Iranians study Arabic, it was not long before the Iranians had moulded Islam into a special form and had utilized



FERTILE COUNTRY OF IRAN

A camel caravan passing along a road through the orchards and ploughed fields of the Iranian plain

Photo: Wide World

Arabic simply to enrich their own language. At the same time it is a notable fact that the Iranians in the early days of Arab domination became such expert masters of their conquerors' language that they produced the finest grammars and dictionaries, and even in poetry they rivalled the Arabs themselves.

The Iranians are hospitable, sympathetic,

and delight in social intercourse; they are also very sensitive people, and like sensitive people they have exquisite manners and dislike rudeness. The very rapid progress they have made in recent times in their attempt to imitate what is best in Western civilization makes them all the more nervous of criticism on the part of Westerners.

Israel and the Hashimite Kingdom of Jordan

THE area formerly known as Palestine is at once the western boundary of the great Arabian Desert and the eastern shore of the Mediterranean Sea. It is thus the meeting-place of East and West, and belongs in a curious way to both worlds. It is an area of extremes. There are the hot winds, the aridness, the drought, the racial types, the religious and social ideas of the desert side by side with temperate sun and rain, and the culture, vegetation, fauna and physical types of the Mediterranean. Steep hills and deep valleys cut up the whole with dramatic suddenness; and this explains why both in the past and the present the manifold variety of the life and culture found there has never been brought into one unifying influence.

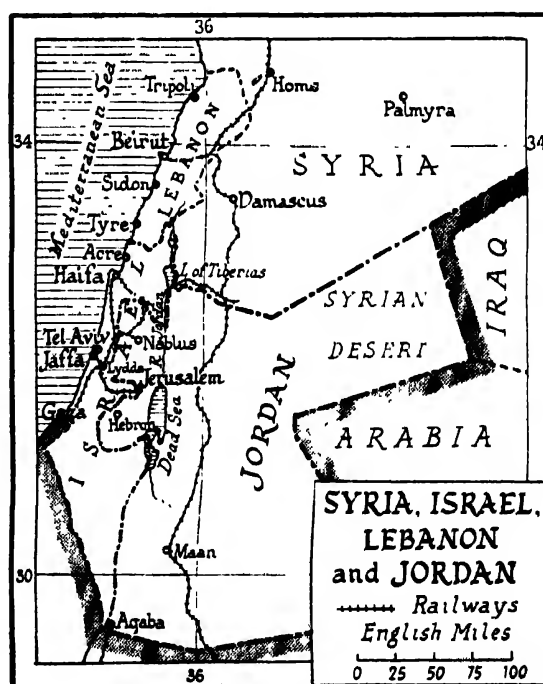
In 1948 Palestine was partitioned into the Jewish State of Israel and Arab Palestine, but the boundaries proved unacceptable and following an outbreak of hostilities new demarcation lines were defined in 1949. A year later Arab Palestine was formally incorporated in the Hashimite Kingdom of Jordan. An enclave in the south-west known as the Gaza strip is under Egyptian control.

The area of Israel is 8050 square miles. A fertile plain (about eighteen miles wide) runs along the Mediterranean coast for 120 miles. To the east are two ranges of hills starting in the north, in the mountains of Syria, and losing themselves in the desert in the south. The River Jordan, which divides these two ranges, is a deep cleft already 700 feet below sea-level at the Lake of Tiberias (Sea of Galilee), and falling to 1300 feet below sea-level at the Dead Sea. The hill range lying to the west of the Jordan is itself divided by a wide plain, the biblical Esdraelon, spreading south-east from the Bay of Acre. The only parts of the Jordan

valley retained by Israel are the area to the west of Lake Tiberias and the south-western extremity of the Dead Sea.

To the south is the Negeb, a triangular-shaped semi-desert region.

The Plains of Israel. One remembers from biblical times the division of Palestine



into the uplands of Judea, centred round Jerusalem, and the rich plains of Israel. More truly, both north and south had rich plain, fertile slope (pleasantly covered by grass and wild flowers in the spring), rough field, with little but scrub, and stony crag, sometimes terraced with olive trees, more often quite bare.



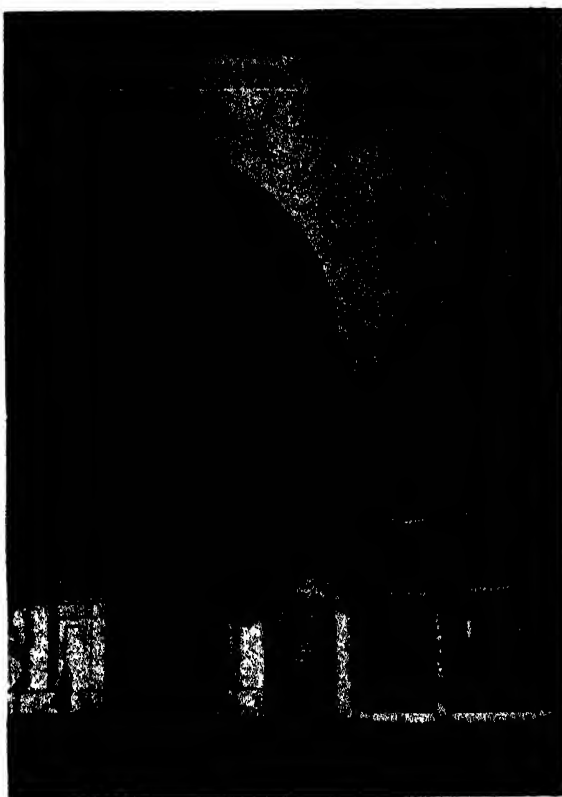
JORDAN
The prehistoric rock temple at Petra
Photo: Thos. Cook & Son, Ltd.

The "land flowing with milk and honey" dazzled with its fertility the Israelite wanderers from the desert, as the Bible shows. In particular, Palestine was famous for its vines and olives—the latter finding ideal conditions in the dry stony hills—its wheat, especially that growing in the rich volcanic soil of the Hauran, east of the Sea of Galilee, and its spices, yielding the "balm of Gilead" (from east of the Jordan) which the Romans well knew how to value. To-day artificial irrigation and scientific methods of soil development have increased enormously the area's potential productivity; but the most fertile regions still remain, as in biblical times, the maritime plain, Esdraelon and Zir'in (Jezreel), and a large variety of crops can be grown.

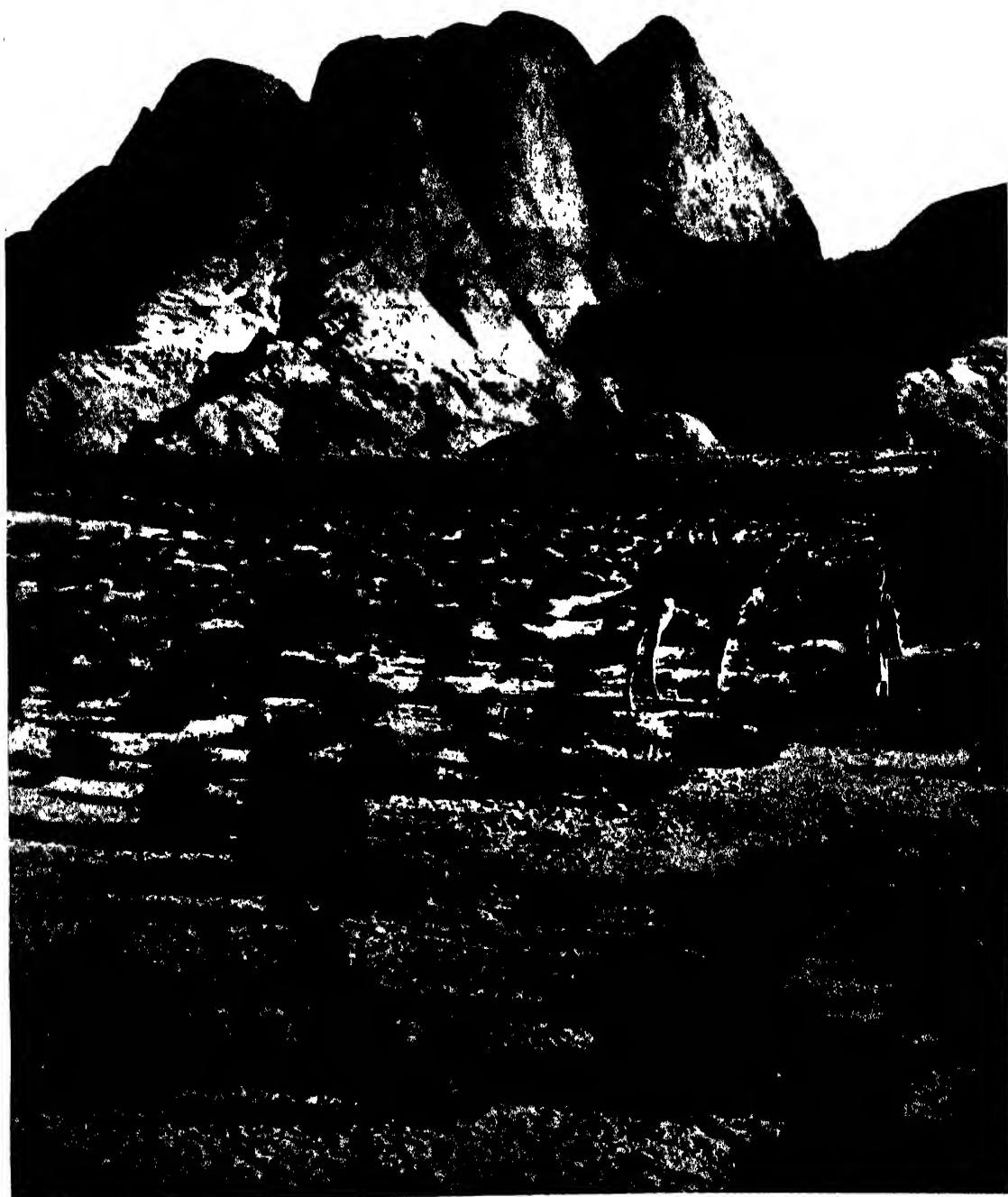
Modern Development. Modern changes, far from robbing the country of its dramatic contrasts have intensified them. Malarial swamps have been drained and are oases of fertility round which the few remaining Bedouin

camp with their goats and sheep. Co-operative farms, conducted by Jewish settlers with the most modern machinery and producing a remarkable variety of crops, fruit and vegetables, are interspersed with old Arab villages, for despite the enormous exodus of Arab refugees—over 800,000 displaced Palestinians are estimated to be living in neighbouring Jordan, Egypt, Syria and the Lebanon—there were at the end of 1951 still about a hundred villages in Israel inhabited by well over 100,000 Arabs. Modern roads, connecting modern and ancient cities, wander over barren hills, denuded of their trees by the ravages of war.

"Lebanon and Sirion" still look down on Nazareth and the hills beyond which are bare almost to Jerusalem; but between lies the valley of Esdraelon, richly sown with grain, and Haifa, a modern port and industrial centre. On the shores of the Dead Sea, where fantastically shaped limestone crags bring to mind the volcanic overthrow of Sodom and Gomorrah, are situated great chemical works, commercializing the richness of the Dead Sea salts. The hydro-electric machinery, which the



THE MOSQUE OF OMAR
One of the many centres of worship in Jerusalem
holy city of three great religions
Photo: Italian Lines



DESERT SCENE NEAR RAS SAFSAT, SINAI

Photo Wide World

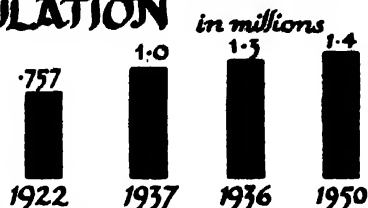
Jordan operates, falling as it leaves the Sea of Galilee, gives electric power to almost the whole country. Symbolizing all, the modern Hebrew University outside Jerusalem, its laboratories engaged in advanced scientific research, looks down upon the site of the ancient Temple of the Jews, holy to three great religions.

It was always misleading to speak of the population of the former Palestine as though

agricultural enterprise took two main forms. On the one hand, with money collected from the Jews of the world, land was bought for collective farming. Most of this land was in the maritime plain, and in the valley of Zir'in, near the Lake of Tiberias, and a good deal of it had been previously unproductive—stony and swampy. At the same time, individual Jews purchased more fertile land, mostly in the maritime plain, usually for orange-growing.

ISRAEL

POPULATION



Distribution in thousands By Religion

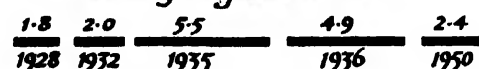


EXPORTS OF CITRUS FRUITS

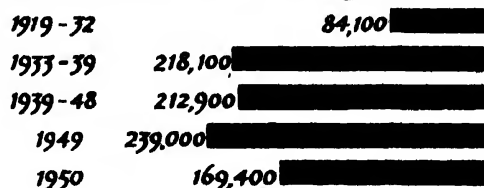
1950-51 4,185 thousand cases

SHIPPING Vessels Entered

in millions of Registered Tons.



Total Jewish Immigration



FOREIGN TRADE by Countries

in percentages of Totals of millions of £1



*Bars are not comparable to each other, but merely show proportions of trade by countries of origin & destination

N.B. Figures prior to 1948 are for Palestine

it were a homogeneous whole. The Jews and Arabs worked independently in almost all their enterprises, and the 1931 Census revealed that as many as 60 different languages were in habitual use.

The Work of the Jews. The population of Israel is estimated at about 1,370,000, of whom 1,200,000 are Jews. So many changes in the life of the country have been directly due to the systematic settlement of the Jews after the 1914-18 War, when their right to regard it as a "National Home" was granted to them by the Allies, that it will be simpler to consider their activities during that period first.

Before that War, Jewish settlers, looking to the biblical tradition, had concentrated largely on the culture of the vine. After the War,

To-day, Jewish collective and private farms and orchards have extended, and are found more continuously between Tel-Aviv and Haifa, Haifa and Tiberias, and more scattered northward from Tiberias to Metulla, on the Syrian frontier. The maritime plain concentrates on citrus planting, which it has developed to a remarkable extent. The "Emek" (Valley), as Esdraelon is called, has systematically extended the growth of cereals and dairy farming. All these areas engage in subsidiary poultry and vegetable farming.

When one remembers that for many months of the year parts of the country are dry and barren, that the soil is very difficult to work, that disease and plagues can be common, it is evident that the creation of what is almost a

continuous belt of flourishing agricultural enterprise is a remarkable achievement. It has demanded considerable self-sacrifice on the part of the settlers, and continual scientific research into water and soil problems, plant diseases, cattle breeding, the utilization of agricultural by-products, as well as the development of internal and export marketing. One other important factor must be mentioned. In ancient times, the hills of Palestine were protected by forests which were gradually cut down through the centuries in the search for fresh soil. The Jewish settlers have made great efforts to plant new forests which in time will fructify the soil of Israel.

The agricultural enterprises of the Arabs also increased considerably during the years between the Wars, though mostly in citrus growing. Cereal and vegetable farming was carried on in a large number of small individual enterprises, but there is nothing to correspond with the intense collective efforts of the Jewish settlers. Scientific methods of farming, however, benefited Palestinian Arabs considerably,

and the lessons then learnt may be of considerable value in the future development of the western districts of the Kingdom of Jordan, which is fertile but suffering from severe erosion.

Apart from citrus fruits and wine, Israel has no important agricultural exports, the other products being needed for the greatly increased population of the country. Attempts however are being made to develop other produce in Israel, if only for home consumption. Tobacco and bananas are two examples.

Minerals from the Dead Sea. The Jewish settlers have made equally revolutionary changes in the industrial life of the country. Before the first World War, the only industry conducted on a large scale, but in a primitive way, was the manufacture of soap from the abundant olive oil. To-day, the most striking industrial enterprise is the extraction of mineral salts from the Dead Sea, the potash being particularly valuable for soil enrichment. This exploitation of the only real "natural resource" of the country employs a large number of



HAIFA

An important port on the Mediterranean Coast

Photo: Orient Line



JERUSALEM

1. Bazaar of the metal-smiths. 2. "Wailing" at the wall. 3. A general view of the town from the ramparts. 4. Romanesque architecture of one of the mosques

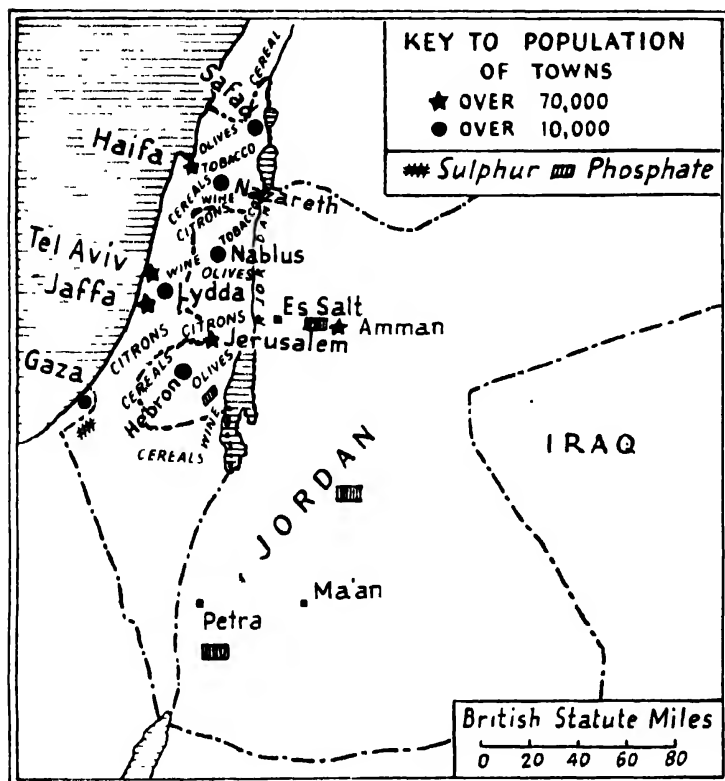
Photos: Orient Line

people. The only other industries of note have been mostly built up through the encouragement of foreign investment in Israel in the attempt to cater for the needs of the growing population. An expanding electricity supply system makes up for Israel's lack of coal. The wide manufacturing field, mostly due to Jewish enterprise, now includes food products, drinks, cigarettes, building materials, metal-work, furniture, textiles, leather goods, artificial teeth, matches, wearing apparel and chemical and allied products, centred mainly around Tel-Aviv and Haifa. The only industry which as yet is really able to compete with those from outside Israel is cement manufacture. In general, the building industry has expanded enormously to meet the demand for houses, factories,

schools, and hospitals. Transport, too, including shipping, has been carried along with the wave of industrial progress.

The two areas where further cultivation is possible are Galilee and southern Israel around Beersheba (the "Negeb"). The former has certainly great possibilities. It has fertile soil, water and a relatively temperate climate. The present pastoral life could easily give way to more intense arable farming to the benefit of the whole country. The southern district is more problematic. Water is the main difficulty, although it is thought that wells could be bored. At the most optimistic estimate, however, only half of Israel's area is cultivable.

The Towns. Nowhere are the changes of Palestine seen more strikingly than in the



growth of its main towns. Jerusalem, the capital, consists of the Old City, unchanged within its old walls for centuries—and the new city, spreading very quickly westward and southward. In the Old City narrow streets lead through low arches into curious courtyards, houses are high and low, shut in or with beautiful vistas over the Judean hills or towards the level range over the Jordan that was once Moab. Synagogues, churches and mosques everywhere, vegetables, jewels, ironwork—curious crafts and common trades, pilgrims to the Holy Sepulchre and the Via Dolorosa, visitors to the Great Mosque, black, dark and white men, tourists and police, an ever-changing succession of sounds and smells—this is something of the Old City. The new city, developed mainly by the Jews, has some well-planned residential quarters, and two or three fine shopping thoroughfares. Under the terms of the Armistice of 1949 Jerusalem was divided between Israel and Jordan, and the principal Christian and Moslem Holy Places now come within Jordan territory. The total population of Jerusalem is about 155,000, of which the Israeli part contains 110,000 inhabitants.

The four main towns (Jerusalem, Haifa, Tel-Aviv, and Jaffa) account for 50 per cent of the

population. Jaffa was formerly the only port of Palestine, and despite its expansion through trade development of recent years, it remained in Arab control, the Jews developing their own town of Tel-Aviv, a mile away. This latter place grew from a suburb containing a handful of Jews in 1913 to a town of over 150,000 inhabitants by 1945. It was built and controlled entirely by Jews and its latest development is a port which is beginning to export a good deal of the citrus produce from its hinterland. Haifa has made equally striking progress. As the former terminus of the pipe-line which brought oil from 'Iraq, it possesses a fine harbour which accommodates oil-tankers and cargo and passenger boats of all descriptions, and it may be claimed that Haifa is rapidly becoming the great port of the Levant. The town itself has become an industrial centre and its residential quarters have

spread up Mount Carmel giving most beautiful views over the Bay of Acre and the Mediterranean coast. Other important towns are Natanya, Nazareth, Petah-Tiqra, and Lydda, the latter an international air port handling thousands of planes a year.

Partition. Many though the good works done by the Jews may be, Palestine is an Arab country and it was inevitable that friction should be caused between the two races. Fighting broke out in 1936 and though subdued during the war it soon broke out again. The liberation of Europe in 1945 saw the release of thousands of Jews from "torture camps" whose only longing was to reach the Promised Land and live in peace. The numbers emigrating were beyond control but the Jews were fanatically determined to achieve their desire. Arabs fought Jews, Jews fought Arabs; both sides fought the British. Action had to be taken to try to settle the country and in 1948 the United Nations decided to partition Palestine, with the results we saw in the opening paragraphs.

The Hashimite Kingdom of Jordan. By contrast with Israel, Jordan has remained for various reasons a backward country. A British mandate after 1919, it was proclaimed an independent kingdom in 1946 under the



THE BEACH AT JAFFA

Photo: Blue Star Line

late King Abdullah Ibn Hussein. The plains of Hauran in the north, and the plateaux of Gilead, Moab and Edom are fertile and well-watered, but undeveloped agriculturally. Wheat (and some other cereals) and good raisin-grapes are the main crops, though experiments are being made on a small scale with some of the other produce which flourishes west of the Jordan. The newly-acquired territory, which includes the districts of Hebron, Jerusalem (part) and Nablus, is, of course, potentially of high agricultural value. A great deal of East Jordan is left to the wandering Bedouin and other pastoral folk.

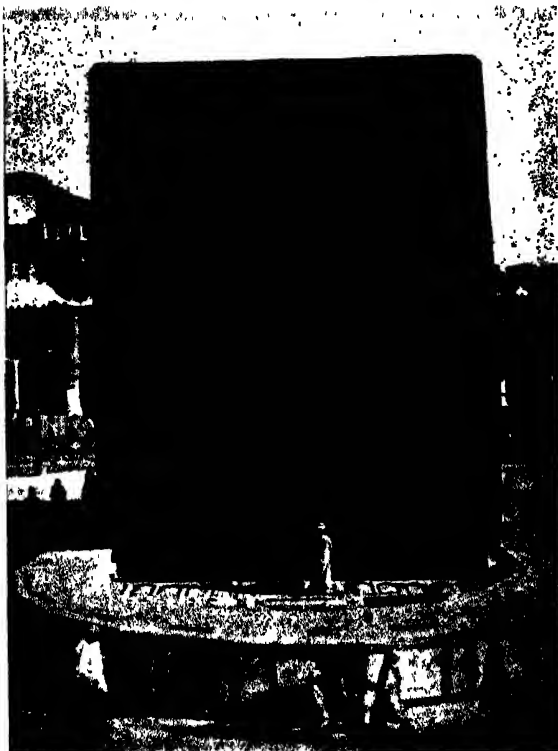
Industrially, Jordan is very backward, but a five-year plan of economic development announced in 1953 following financial agreements with Britain and the United States should go a long way towards improving the position. Under this plan major irrigation and hydro-electric development projects are contemplated in the Jordan Valley. It is estimated that as a result the acreage under irrigation will be increased by as much as 50 per cent.

Other projects under the scheme are the exploration and processing of various minerals, principally phosphates, manganese and potash, the development of a number of industries—notably textiles and olive-oil refining—and the improvement of communications generally.

The total population of Jordan is about 1,250,000, including some 400,000 refugees from the former territory of Palestine. The relief and rehabilitation of these displaced persons has created a major problem, and only through the agency of a special United Nations body established for the purpose has it been possible to cope with the situation. The chief town is Amman (170,000).

In Roman times, Jordan was more closely populated, and ruins of several famous cities remain—notably of Jerash and Petra. The red rock of the southern desert, the fertile oases, the rich vegetation of the hills, the cool streams running into the three rivers of Jordan make it an attractive and colourful country.

Saudi Arabia and the Yemen



THE KAABA AT MECCA

This is shown covered by the cloth which is renewed each year by the people of Egypt

Photo: Royal Legation of Saudi Arabia

SAUDI ARABIA occupies nearly all the squarely-based peninsula lying to the south of 'Iraq and Jordan and stretching a little east of south down towards the Arabian Sea and the Indian Ocean. Rather more than 700 miles across, and with an extreme length of 1200 miles, its superficial area is approaching that of India. On the west the country is bounded by the Red Sea, and on the east by the state of 'Oman and the Persian Gulf. The Arabs themselves think of their country as an island, which in a sense it is, as on the north it is isolated by a veritable sea of sand, the Great Nafūd, from continental Asia.

Relief. The general slope of the land is from west to east. High mountains, descending steeply to a narrow and low-lying coastal fringe, present a rugged aspect to the western sea. The line of the watershed runs north and south, parallel to and never very far from the Red Sea coast. These mountains are highest

in the north-west, in the region of Midian, and in the extreme south-west, where the Yemen plateau reaches a height of 8000 feet above sea-level. On the far side of the watershed the land slopes gently down to the Persian Gulf.

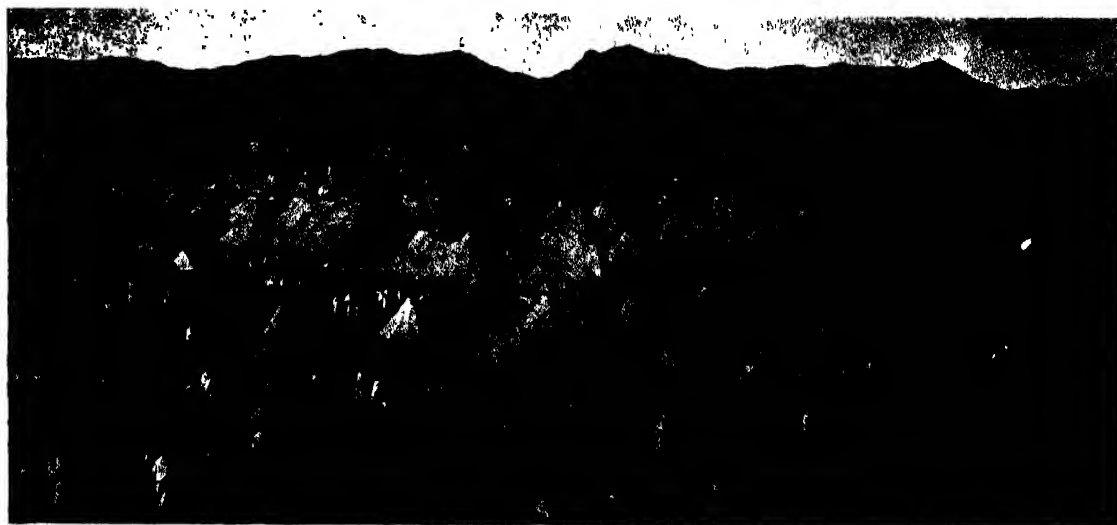
Climate. The two outstanding characteristics of the Arabian climate are the intense heat and the no less intense dryness, the second to some extent mitigating the oppression of the first. Although Arabia lies between two seas, both are narrow, and neither constitutes a sufficient barrier to interrupt the climatic continuity of the country between them with the adjacent continental masses of Africa and Asia. The meagre rainfall experienced by both continents, in these latitudes, also falls, therefore, to the lot of Arabia.

The country is, however, not entirely without rain. The high plateau of the Yemen enjoys monsoon rains in the autumn; but its altitude, and the precipitous rise from sea to summit, produce an almost complete discharge, thus entirely depriving the interior of moisture. In the north the Great Nafūd and Jabel Shammar experience small winter and spring rains, as the Mediterranean winds, in the absence of any intervening high land, are able to penetrate into the peninsula.



THE MOSQUE AT SANA, YEMEN

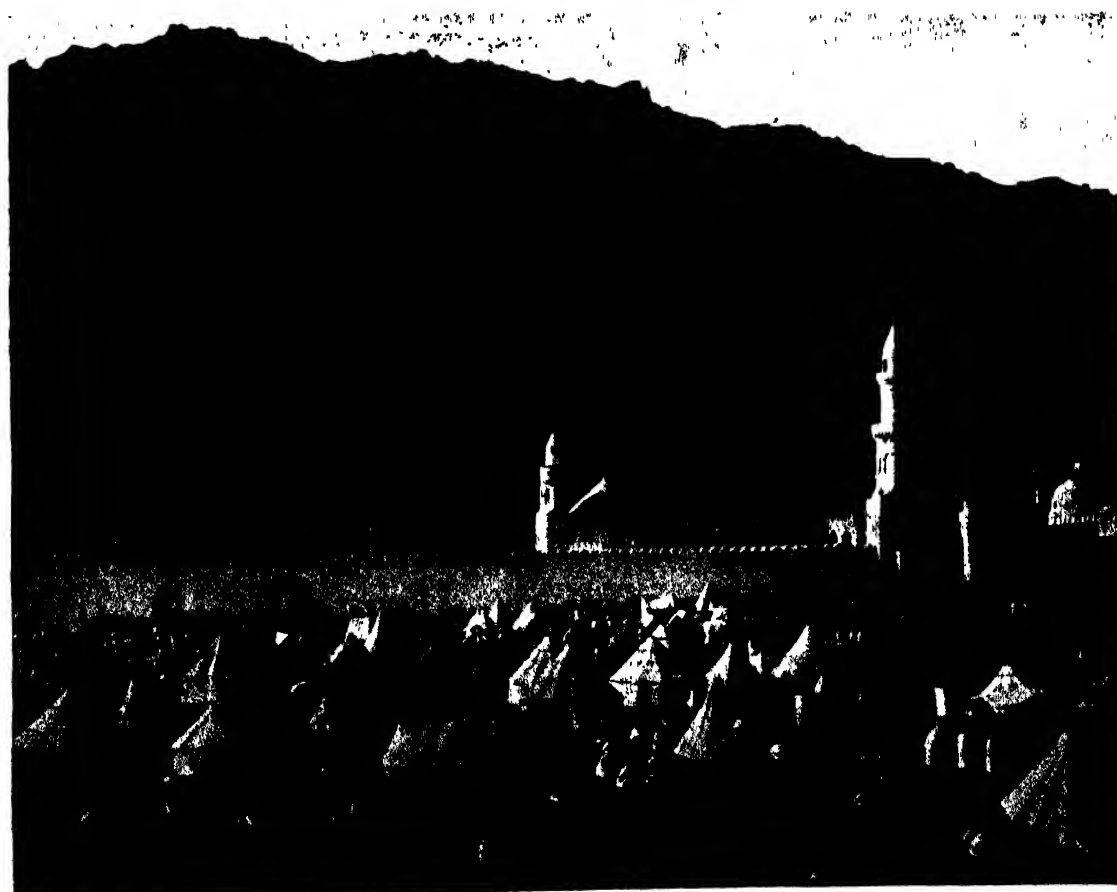
Photo: Krystons



THE PLAIN OF ARAFAT

Pilgrims on the Hadj gathered for the concluding phases of the great ceremony of Islam

Photo: Royal Legation of Saudi Arabia



MINA KHEIV MOSQUE

This is about seven miles from the Plain of Arafat on the road from Mecca

Photo: Royal Legation of Saudi Arabia



SAUDI ARABIAN INFANTRY
Photo: Royal Legation of Saudi Arabia

The Red Sea Coast. Midian, in the north-west, is a barren and desolate volcanic mountain region. The peaks often rise to a height of over 8000 feet. The sandy coastal fringe bordering the Red Sea is here at its narrowest, and the mountains in some places drop almost abruptly down to the water's edge.

Journeying down the coast, we come, south of Midian, to the Hejāz, still generally barren country. Along the littoral strip or Tihāmah are more or less isolated coastal settlements; and infrequent oases, of which Medina, Ta'izz, and Mecca are examples, are found farther inland. The walled town of Medina is the southern terminus of the Hejāz Railway, and from it start the pilgrim caravans to the holy city of Mecca, the spiritual centre of Islam. Vineyards and date plantations, extending for miles, surround the town. Mecca, in contrast, lies in entirely barren country, and all its supplies have to be brought in from outside. The people of the Hejāz, numbering probably round about 2,000,000, are for the most part

nomadic Bedouins, the urban or settled agricultural population being estimated at about 15 per cent of the whole. Jidda, the port of Mecca, is the trading centre of the Hejāz. The pilgrim trade, for greater numbers use the Red Sea than the overland route, is the principal factor in its prosperity.

The inland mountain ridge drops in altitude as we leave Midian for the south, but from the Hejāz on through Asir to the Yemen the level again climbs higher, from 6000 feet in the first to an average height of 9000 feet in the second. The influence of the monsoon rains just begins to make itself felt in Asir, and the wide valleys running south-west to the sea are fertile enough. Even to the east of the mountain ridge there are long strings of oases where cereal crops and fruits can be raised, and a settled population is, therefore, distributed on both sides of the high land. The Asir Tihāmah, though more favourable to settled agriculture and possessing a better water supply than that of the Hejāz, is hot and sandy and does not compare with the higher inland districts.

Cultivation in the Tihāmah depends partly on the flood water coming from the hills down the *wādīs*, and partly on the rains. Dams are built in all the larger *wādīs* and the water that gathers is led off by ditches to irrigate the surrounding land. There are normally harvests in spring and summer, and millet, Indian corn, sesame and cotton are the principal crops. On the higher ground farther inland, corn and lucerne can be grown in the winter, and wheat, barley, lentils, potatoes, and onions in the summer, as well as many varieties of fruits.

In the coastal lowlands straw is the universal building material, and the huts are circular in shape with pointed roofs and clay floors. The beds are either straw mats covered with sheepskin, or else wood frames supporting a network of cross-laced thongs, of a kind familiar to the ancient Egyptians and often depicted



CAMEL CORPS OF THE SAUDI ARABIAN REGULAR ARMY
Photo: Royal Legation of Saudi Arabia



SCENES IN ARABIA

1. A watering place in the Arabian Desert. 2. Bedouin tents in Nejd. 3. The oasis of Al Hama. 4. Milk camels, the property of the King of Saudi Arabia. 5. Provisions for the Royal kitchens in the desert

Photos: Royal Legation of Saudi Arabia



MAHMAL

The arrival in Mecca of the cloth sent from Egypt to cover the Kaaba

Photo: Royal Legation of Saudi Arabia

on their temple murals. In the inland valleys that approach the watershed a different natural environment has called forth a vastly different mode of life. Here every house is a fortress. Massively built of stone, towering four and even five stories high, always each is surrounded by a thick stone wall. The roofs are flat and constructed of beams over which branches and then a layer of clay are placed.

Arabia Felix. Leaving Asir, we come next to the Yemen, which stretches to the south for some 200 to 250 miles to meet the northern frontier of the Aden Protectorate. The Yemen Tihāmah is a more or less level plain sloping gently up from the sea. In the north it is from twenty-five to thirty miles wide, but as we go south the plain narrows till, at Shaikh Sa'id on the extreme south-western tip of the peninsula, it practically disappears and the mountains overhang the sea beach.

The Tihāmah, apart from small patches of irrigated land near the ports of Hodeidah and

Mocha, is barren and salty. Farther away from the sea, approaching the foothills of the maritime range, are wide tracts of arable land on which millet, maize and sesame are grown. But it is in the Yemen highlands of the interior (still, however, to the west of the watershed) that the most productive districts are found.

Coffee Cultivation. Coffee is here the staple crop, and from the Red Sea port of Mocha, once the principal export centre of the Yemen coffee trade, the early name of the beverage was derived. The terraced plantations extend up the mountain slopes to a height of some 8000 feet above sea-level. The earth is scanty and precious and from time to time must be renewed, fresh soil being carried laboriously up the mountain-side in reed baskets. The terraces, sometimes only a few feet wide, and often centuries old, are fenced in with low stone walls, and the picture they present is reminiscent of the cultivated slopes of the Pyrénées.

The people of the Yemen, most of whom are settled, are estimated to number nearly 3,500,000: the major part of the population is concentrated in the high intramontane valleys, where the villages are so closely-set as to be almost continuous. It was to the coast and hinterland of Asir, the Yemen and Aden that the medieval geographers gave the name Arabia Felix.

In the highlands, the ground rises eastward to the ridge of the mountains, the watershed of southern Arabia, and on the far side of this lies the great Yemen plateau, gradually falling away to steppes and plains that merge finally with the Rub' al Khāli, the south-eastern desert which the Arabs call the "Unknown Quarter."

Except for the Red Sea ports, the towns of the Yemen are nearly all in the high country.

San'ā, the old capital, is at 7750 feet, and Manākha at 7500 feet above sea-level.

The patriarchal Arab tribes of the interior have had a nomadic way of life imposed on them by their environment. In three-quarters of the peninsula settled agriculture is impossible. Man must be a tender of flocks and not a raiser of crops. The scanty vegetation available for pasturing impels each family to move on if they would live. Water supplies are scarce and must be guarded. The Arab tends, therefore, to regard every stranger with suspicion and almost all the population goes armed. A traditional code of honour and stringent laws of hospitality regulate the intercourse of the Bedouin. The man who has eaten the salt of the tent-dweller is safe—but for only three days. Well may Arabia be called "the land of ancient violence."

Aden, 'Oman and the Hadhramaut

THE physical structure of Aden and its hinterland, the south-western corner of the Arabian peninsula, is similar to that of the Yemen. A mainly desert coastal plain is followed by maritime ranges, behind which intramontane plains give way abruptly to the high ridge, itself succeeded by an inland plateau which declines after a while into the great desert of the interior. Except on the plateau, extreme heat is general: *wādis* supply but little water, and the rainfall is negligible. Inland from the watershed there is more rain, and water is never far below the surface in the plateau. Irrigation from wells here permits the cultivation of wheat, barley, maize, and lucerne.

The fortified port of Aden, on the south coast, is an important fuelling station on the seaway to the east. The settlement, originally restricted to Aden proper, built on a small volcanic peninsula, to-day includes Little Aden (purchased in 1868), Sheikh Othman and the villages of Imad and Hiswah. These territories, with an area of about seventy-five square miles, were formerly administered by the Indian Government and regarded as a part of British India, but since April, 1937, the settlement has enjoyed the status of a Crown Colony.

The Protectorate, a largely undefined territory lying to the north, west and east of the settlement, covers an area of roughly 40,000 square miles, and consists of lands subject to

Arab chieftains who are in treaty relation with the British Government.

The interior valley of the Hadhramaut, a great *wādi* curling to the sea, but for the most part running parallel to the coast, is a region of great fertility. Along the coast itself lies a strip of desert sand-hills. These are backed by a plateau, the continuation of the Yemen, whose highest ridge appears some thirty miles inland. The deep *wādis* that break up the plateau lead off in a north-easterly direction to the Hadhramaut valley, beyond which the ground rises again, forming a barrier between the settled valley and the desert. The Bedouin of this part of the country are unique in that they use clay huts or the shelter of caves rather than tents.

Transport. The use of wheeled vehicles is quite impossible in the Hadhramaut, and camels and donkeys provide the only means of transport. All over Arabia the principal agent of communication is the camel; the female being generally used for riding and the male for the carrying of goods. Camels, whose normal span of life is from forty to fifty years, are not fit for regular work until their sixth year, and their working days are usually over by the time they are twelve or thirteen, though in the Nejd, where they are said to receive better treatment, camels of twenty-five who are still in harness can often be found. The



ADEN

1. A general view of the city 2. Water-cart drawn by a camel. 3. Windmills on the outskirts of the town

Photos: Blue Star Line

largest and most powerful beasts are bred in the north, and the fastest in central Arabia and 'Oman.

The blunt, north-eastward projecting end of the Arabian peninsula, between the Persian Gulf, the Gulf of 'Oman, the Arabian Sea and the Rub' al Khāli, is the territory of the Sultanate of Muscat and 'Oman. Dominating the physical structure of the promontory is a crescent-shaped mountain range, extending from Ras Musandam at the entry of the Persian Gulf to Ras al Hadd, the most easterly point of Arabia.

Cutting across the range and dividing it into eastern Hajr and western Hajr is the Samā' il Wādi, and between the western Hajr and the sea is the coastal region of Al Bātina. Inland, and behind the mountains, are the two districts Dhāhira and 'Oman proper, separated by other mountains situated at right-angles to the main range. Inland from the eastern Hajr is Sharqīya, a sandy district giving way in the south to the desolate coast, and in the west to the Unknown Quarter. Wādi Samā'il is densely populated, and along it runs the main line of communication between

the interior and the coast. As the Yemen uplands are the centre of Arabia's coffee production, so is 'Oman renowned for its dates, which depend for their cultivation entirely on irrigation.

Muscat, the residence of the Sultan and capital city of 'Oman, is isolated from the

interior by almost impassable hills, but possesses a good harbour and is the country's only port.

The Pirate Coast, or Trucial 'Oman, borders for more than 300 miles the southern waters of the Persian Gulf, and leads north to the peninsula of Qatar.

Afghanistan

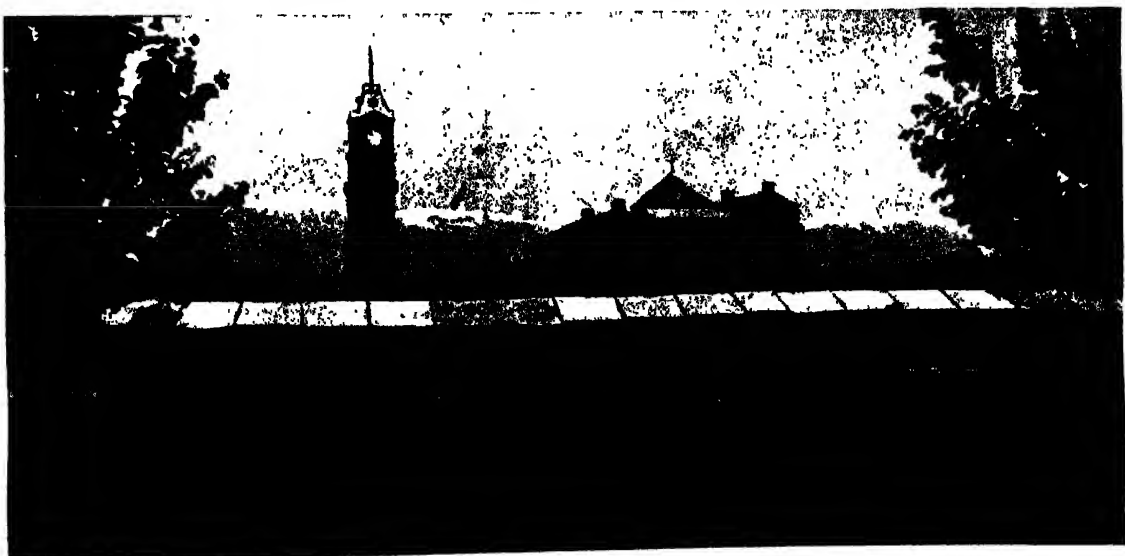
AFGHANISTAN is an inland country of south-east Asia, with an area of 245,000 square miles, occupying the eastern portion of the Iranian plateau. It is bounded on the west by Iran (Persia), on the north by Russian territories, on the east by Chinese Turkestan, and on the south and south-east by Pakistan. The extreme breadth from the north-east to south-west is about 700 miles, and from the frontier at Herat to the Khyber Pass is about 600 miles. The population is estimated to be between 12,000,000 and 13,000,000.

The greater part of the surface is highly mountainous. Even the plains are mostly more than 4000 feet above sea-level, and large areas are upwards of 7000 feet. The principal mountain ranges are the Hindu Kush, the Koh-i-Baba, the Siah Koh, Safed Koh, and the Suliman Mountains in the east. Minor ranges extend as trailing offshoots of the Hindu

Kush. The lower elevations are mainly in the west and south-west. In the valley of the Hari-Rud, and in regions adjoining the Oxus, they fall below 1000 feet.

Rivers. The principal rivers are the Helmand, with its tributaries, the Arghandab, the Hari-Rud, the Murghab, which drains the south and south-west, the Oxus (or Amu), draining the north, and the three tributaries of the Indus, the Kabal, traversing the Khyber Pass, the Karum, traversing the Karum Pass, and the Gomul, traversing the Gomul Pass. None of Afghanistan's rivers is navigable. At the higher elevations the range of temperature is very wide. At the lower elevations an agreeable temperature prevails for the greater part of the year.

Minerals and Forests. Afghanistan is comparatively rich in mineral resources, but there is little attempt to develop them. Copper,



THE PALACE OF AFGHANISTAN
The Dil Cuscha Palace and Clock Tower at Kabul
Photo: Topical

lead, iron-ore, antimony, and sulphur are found in many parts. Iron is most abundant in the Hindu Kush regions and is smelted at Katghan and Parnal. Gold is found in small quantities in the Lagman Hills and Kunar. Coal exists in the Ghorband Valley and near the Khurd Kabul Pass; crude petroleum has been discovered near Herat; and silver mines are worked in the Panjsher Valley.

The country is also rich in forests. On the mountain ranges, at heights varying from 6000 to 10,000, feet, grow large forest trees, including pines, walnut, hazel, and yew trees. Of more important commercial value are the gumm-resin yielding trees, found on the high and dry plains of western Afghanistan. The product of this tree is exported in large quantities to India.

Agriculture. The Afghans have few commercial or industrial instincts and are mainly an agricultural people. Physically, they are tall and well-built, possessing handsome features. Composed mainly of Durani, Ghilzai, and Hazaras, they are mostly Mohammedans and speak Persian. In the Turkestan district and in parts of Badakhshan, Turkish is spoken.

Although the greater part of the country is too mountainous, and a good deal of it too dry and rocky for normal methods of cultivation, the valleys and plains have in the greater part been made fertile by irrigation. These areas have been made to yield very satisfactory crops of fruits, vegetables, and cereals. In many parts of the country, two harvests are reaped, one in the spring and the other in the autumn. Crops of the spring harvest are wheat, barley, and lentils; those of the autumn are rice, millets, maize, beans, tobacco, beet, turnips, etc. The castor-oil plant, madder,

and other plants abound. Apples, pears, cherries, pomegranates, grapes, melons, figs, mulberries, and the sugar cane are produced in abundance.

These fruits form a staple food for a large section of the population throughout the year. Many are preserved for the export trade. The fat-tailed sheep is native to Afghanistan. It furnishes the principal meat diet of the inhabitants, and the grease of the tail is used as a substitute for butter. The wool and skins provide material for warm apparel and also furnish the country's main articles for export. The export trade is not very extensive and in addition to wool products, consists of horses, silks, and fruits.

Kabul. The capital, Kabul, has a population of about 206,000. It is 5800 feet above sea-level and is enclosed on the north-west and south by hills. The houses are built of mud, on wooden frameworks, and the streets are wide. There are comparatively few dwellings built in European style. Kabul has factories for the manufacture of soap, clothing, silks, leather goods and boots, as well as State factories for the provision of arms and clothing for the army.

Kandahar. With its suburbs, Kandahar has a population of 77,000. It is a walled city, about 3500 feet above sea-level. Chief manufactures are silks, felts, and carpets.

Herat. A fortified city, with a population of 75,000, Herat is a popular centre for visitors. It is built on an artificial mound, nearly one mile square and sixty feet in height. It owes its finest buildings to Sultan Hussein Mirza, who rebuilt the Mosalla Mosque, which was originally begun in 1192 and later partially destroyed. Manufactures are silks, felts, woollen goods, leather goods, carpets, etc.

Cyprus

CYPRUS, with an area of 3584 square miles, is the third largest island in the Mediterranean. Its situation, near to the mainland of Asia Minor and on the main route from Europe to the Near East, has made it for centuries a meeting place of different civilizations. Until its annexation to the British Crown in 1914 it was one of the most backward of Turkish dependencies, of little

commercial importance and with an extremely low standard of living. To-day, as a British Crown Colony, its importance is still mainly strategic and the life of the people remains half Asiatic in character.

Nicosia, the capital, has a population of a little over 38,000, about one-third of which is Mohammedan. The population of the remaining five towns, each the capital of one



CYPRUS

1 The Church of St. Lazarus at Larnaca 2 The town of Kyrenia 3. Threshing with donkeys and oxen

Photos: Thos Cook & Son, Ltd., Orient Line

of the districts into which the island is divided, varies from 26,000 to just over 3000, and the vast majority of the population of 490,000 is scattered among the island's 641 villages. The villages, however, retain a town-like appearance from the time when the population huddled closely together as protection against attack.

In most villages the only open space among the narrow streets is the square in front of the church or mosque. In the hills the houses are built of stone, in the plains of mud bricks faced with earth-coloured plaster and roofed with beaten clay or tiles. The typical Cypriot village is both dirty and depressing in appearance. Most peasant homes have only one room in which the whole family lives, eats, and sleeps, and as often as not the animals dwell in the same room.

The café, indistinguishable in appearance from neighbouring houses, is the centre of village life, and, apart from occasional fairs and weddings, offers the only opportunity for recreation and entertainment.

The peasants depend for their livelihood mainly on the production of cereals, grapes, and olives. The average peasant holding is divided into many scattered strips, often several

hours' journey apart; women and children generally work in the fields, but even so the family earnings are extremely meagre and the standard of living low. A peasant inheriting a small property usually inherits with it a disproportionately heavy debt and the money-lender exercises a strangling effect on village life. A system of agricultural co-operation has been devised by the government to provide credit at reasonable rates, and has had some effect in reducing the power of the money-lender and in effecting improvements in agricultural organization, methods of production and marketing.

In 1945 the government started a post-war reconstruction policy to develop the island's resources, improve living conditions and encourage exports. Plans were also made to provide a water supply for every village and to introduce a health service.

As conditions improve and Cyprus gains in strategical importance in the Mediterranean, because of the loss to England of the Levant ports, so trade is likely to increase. The most important exports are brandy, wines and other spirits, hides and skins, silk, tobacco and citrus fruits.

INNER ASIA

(Outer Mongolia; Sinkiang; Tibet)

THE districts of Inner Asia known as Outer Mongolia, Sinkiang, and Tibet have all figured prominently in Chinese history; though only the second of them has ever, in any definite sense, been part of, or completely assimilated by, China proper.

Of the three regions, the Mongolian plateau—comprising both Inner and Outer Mongolia—is the largest, covering some 1,500,000 square miles. The general level of the land is from 1200 to 2000 metres; but between Outer Mongolia in the north and west, and Inner Mongolia in the south and east, lies the depression of the Gobi Desert, a barren sand and gravel lowland seldom rising as high as 1000 metres above sea-level. The south-west borders of Outer Mongolia correspond roughly with the line of the Altai Mountains, beyond which is the former Chinese Turkestan, better known as Sinkiang—the New Dominion. Its physical structure is simple enough. The country's backbone is the great Tien Shan

range—the Mountains of Heaven, stretching eastward from Soviet Asia. To the north-east of the Tien Shan are the Altai, and between the two the desert country of Dzungaria; while to the south the Takla Maken Desert, through which for a thousand miles the Tarim River flows, extends down to the foothills of the Karakoram and Kuen Lun mountain systems which separate Sinkiang from Kashmir and Tibet. Both deserts, the Takla Makan and the Dzungarian, join, farther to the east, with the Gobi. Farther still to the south, another mountain range, the Himalaya, forms the dividing line between Tibet on the one hand and India and Nepal on the other.

Mongolia. Mongolia itself is divided into Inner Mongolia and Outer Mongolia which became an independent republic in 1924, confirmed by a plebiscite held in 1945. It extends north to Siberia, and west to the borders of Kazakhstan.

Estimates of population, vague enough in



RIVER PASTURES

Mongolian herdsmen tending cattle by one of the many streams in the steppe grazing land

Photo: Planet



OUTER MONGOLIA

The former Lamasery Palace of Bogdo-Gegen, the last King of Mongolia. The building at present is being used to house the Museum of the Revolution of the Mongolian People's Republic

Photo Planet

China proper, are more than commonly fallible in these outlying districts. Outer Mongolia is thought to have a population of between 750,000 and 1,000,000.

The monotonous, cold and wind-swept high land of the plateau, broken by no mountains, intersected by few rivers, thus harbours a sparse and for the most part nomadic population. It was the original home of the Hsiung Nu, whom we know as the Huns; and it would indeed have been strange if such a geographical environment, combining immense distances with a lack of natural barriers, had not produced a race of horsemen. Mongolian-bred ponies are still highly valued in China.

The towns of the Mongolian tableland are few and primitive, but most have their historic associations. One of them, Holin, on the banks of the Orkhon River, was formerly the capital of Genghis Khan. As well as by the progress of settled agriculture, the nomadic habits of the Mongols have been also countered by the growth of the great, and often extremely wealthy, lamaist monasteries. The abbot of the lamasery is normally a secular ruler as well, claiming authority over a settled local population.

"Banners" and "Leagues." The tribal

organization of the Mongols was originally, and to a great extent is still to-day, based on loyalty to a particular chieftain. Where the chieftain moved, his supporters and followers moved with him. The unifying factor of the Mongolian social group was therefore personal and not territorial. This characteristic accounts for the careful attention paid to genealogies by the Mongols, whose princes can almost all trace their descent, with reasonable certainty, at least as far back as the family of the Great Khan. The policy of the Manchus, a policy continued after 1911 by the Government of the Chinese Republic, has been to break up the tribes into smaller units (though these are still directly governed by their Mongol princes), and to stabilize the groups as far as possible on a definite territory. The Mongolian "banners," as these groups are called, are united for administrative purposes into "leagues": eastern Inner Mongolia, for example, has three such "leagues," the Jerim, Josoto, and Jo-ude. The princes, however, to whom the "banners" owe their allegiance, are all inter-related; and the tribal structure still persists in spite of Chinese attempts to supersede it.

The Outer Mongolians have never regarded themselves as subject to China, and after the



SPORT IN MONGOLIA

A group of three champion wrestlers posing for a photograph before taking part in a national contest

Photo: Planet

Revolution of 1911 they once again proclaimed their independence. In 1919, a Mongolian national crusade was provoked by a new Chinese attempt to enforce sovereignty, and a few years later, with assistance from Russia, an Outer Mongolian People's Republic was founded. Urga, the capital, was re-named Ulan Bator Khota—the City of the Red Hero. The People's Republic is certainly independent of China, and is not formally a part of the Union of Soviet Socialist Republics, though its foreign relations seem to be dictated rather from Moskva than from Urga, and a primitive system of "pre-communism" is said also to have been introduced. The city of Ulan Bator is being modernized; medical services are being organized for the first time to combat that great scourge of central Asia, venereal disease; and a start has been made in the direction of providing education and technical schools. Air communication exists with Siberia, and a railway from Naoushki to Ulan Bator was opened in 1949: camel caravans remain, over the major part of the country, the principal means of transport; the exception being in the Altai, where yaks are more commonly used. An efficient system of pony posts, radiating out from Ulan Bator, provides Government messengers with speedy remounts.

Bounded to the north by the crescent-shaped Sayan Mountains and now part of the U.S.S.R., is the hilly, wooded and well-watered region known as Urianghai, considered by the Manchus as forming a part of Outer Mongolia. This district became an independent republic in 1921, taking the name Tannu-Tuva. Its

capital is Kisil Khota (Krasny), the Red City. The district became incorporated in the U.S.S.R. in 1944 as an autonomous region.

The New Dominion. Sinkiang, a district twice the size of France, is perhaps one of the least known and most forbidding parts of central Asia. The writ of the Chinese Government has run without difficulty only in recent years in this most outlying of the provinces; and the political situation used to be complicated by two further factors: the presence of British influence in the south and Soviet penetration in the north; and the emergence of an Islamic nationalist movement among the Turki who compose the greater part of the population.

This province of China is most easily approached from the west, up the Ili Valley to Kuldja and Dzungaria. The Ili River, formed from the Tekes and the Kungas, flows through the Tien Shan Mountains into Kazakstan south of Lake Balkash, and it was in Dzungaria that Soviet influence attained its maximum. The road from Inner China to Sinkiang is long and arduous; the old imperial highway strikes north-west from Lanchow in Kansu, along the Etzin Gol Basin to Liangchow (Wuwei) and Kanchow (Changyi), retracing the route once followed by the invading hordes of Genghis Khan. After Suchow in Inner Mongolia, the



MOUNTED HERDSMAN OF MONGOLIA

Photo: Planet



THE KARAKORAM RANGE

A snow-covered wilderness on the high plateau of the Karakoram, near the borders between Sinkiang and Tibet

Photo. Wide World

caravan routes part, one branch continuing north-west to Hami, Urumchi and Kuldja, and one going west to meet the chain of oases that lie immediately north of the Kuen Lun Mountains. This is the Great Silk Road of the medieval traders, probably used by Marco Polo.

Chinese Moslems. Sinkiang has an extremely mixed population. Besides the Tung-kans, so-called from a Turki word meaning "converts," who are Chinese-speaking Moslems, there are many Kirghizes, of Turki-Mongolian stock, inhabiting the Tien Shan, Kuen Lun and Pamir Mountains; nomadic Kazaks and Turgot Mongols in the north, scattered between the Tien Shan and Altai ranges; and Tajiks in the south. The Turki are called Chan Tou, or head binders, on account of the characteristic turbans they wear. One or two hundred thousand Chinese complete the tale of Sinkiang's racial minorities.

The deserts and the mountains, with both of which Sinkiang is more than well provided, are the principal factors determining the life of the people, and, for that matter, their national character. Nomadism is the exception rather than the rule, as the desert land is not easily crossed owing to the scarcity of water; and though there are more nomadic tribes in the north than the south, the majority of the population are settled agriculturists. To be cultivated, the fields have also to be irrigated, and the melting snow that swells the mountain streams is used for this purpose.

Burying Ice. A common practice in Sinkiang is the burial of winter ice, to be exhumed later, when the hot season has come, and sold to the thirsty and improvident. Each oasis is separated from its neighbours by stretches of desert land, to be crossed only with great risk; and each village functions, so to speak, as a closed economic system. Local patriotism thus takes the place of national feeling, and what bond of unity there is has a religious basis in the creed of pan-Islamism. After the barren desert the oases make a brilliant contrast, with their green fields, poplar groves and rose gardens. One chain of settlements follows the line of the Silk Road from Cherchen west through Khotan, Karghalik, and Yarkand to Kashgar, lying north of the Kuen Lun and east of the Pamirs. From Kashgar the trans-Himalayan route leads to Srinagar and India, one road climbing over the Hindu Kush by the 15,000 feet high Mintaka Pass that marks the frontier between Pakistan and China, and another, south of Khotan, crossing the Karakoram Mountains at a height of over 18,000 feet.

To the north of the Takla Makan Desert, on the lower southern slopes of the Tien Shan, lies another string of oasis settlements, from Aksu in the west to Turfan in the east. The Turfan depression is in some places considerably below sea-level, and is both the lowest land in China and the hottest. To the north of it, within the mountains, is the city of

Urumchi (Tihua), reputed to have a population of more than 100,000.

Tibet. Tibet, extending between the Kuen Lun and Himalayan Mountains, is the highest plateau in the world, more than three-quarters of the country having an altitude of over 15,000 feet. It is both the roof of the world and the father of waters. From its mountains the Yangtze Kiang and the Yellow River flow into China, the Indus, the Sutlej and the Tsang Po, or Brahmaputra, into India, and the Mc Kong into Thailand and Indo-China. Great lakes are found at amazing heights, the Pangong, for example, being at 14,000 feet.

Since being invaded by China in 1950, Tibet has to all intents and purposes lost her former independence inasmuch as she now has repre-

sentatives attached to the Chinese People's Republic. The people, of whom there are approximately 3,000,000, are of pure Mongolian stock, and practise a form of Buddhism. The population is decreasing, in part owing to the high percentage of males who are enrolled in the monastic order and in part to the prevalence of polyandry.

The Chang Tang or Northern Plains, a plateau more than 16,000 feet above sea-level, sends its rivers, the Kiriya and Cherchen Darya, northward to irrigate the oases of Sinkiang, and finally to lose themselves in the Takla Makan Desert. To the south the Chang Tang falls away to the Valley of the Tsang Po, the principal river of southern Tibet. The Chang Tang is treeless, but abounds in wild life—



LIFE IN TIBET

1. The Palace of the Dalai Lama at Lhasa, built on a natural rock fortress.
2. The Devil's Dance in a monastery courtyard.
3. Characters in a mumming display.
4. A herdsman mounted on a yak.
5. A Tibetan minstrel playing on a traditional instrument.

Photos: Wide World; Keystone; Sport and General



TANNU-TUVA

A country settlement in the foothills of the Tannu-Tuva Mountains

Photo: Planet

yaks, asses, sheep and goats. No grain can be grown in this part of the country.

The second natural region of Tibet is formed by the valleys of the Indus and Sutlej Rivers in the west, and the Tsang Po Valley in the south, all three rivers rising near Lake Manasarowar. On these rivers, which are main lines of communication, the Tibetans use coracles constructed from yak hides and built round a frame of willow or thorny scrub. Along the course of the Tsang Po are found the greatest cities of Tibet: Shigatse, Gyantse, and Lhasa itself, and here the trade routes from Siberia, Mongolia, and Sinkiang in the north, from China in the east, and India in the west, converge. The third region of Tibet is that of the mountains and high valleys lying in the east between the Chang Tang and China proper. Here, flowing close to and parallel with each other, we find the Yangtse, Me Kong, and Salween Rivers. This is a forest land, with abundant grazing for cattle.

The climate of such a high country is naturally severe, a circumstance that is aggravated by the exceptionally violent winds. In the winter, when the lower-lying land is covered with snow, the Tibetans drive their cattle up the mountain sides, where the force of the wind has swept the slopes clean of snow and the grass can be cropped by the beasts.

A Curious Frontier. Tibet, Bhutan, and Sikkim provide one of the most curious examples of frontier determination in the world. On the mountain slopes the vegetation changes with the increasing altitude, and the line of demarcation on the southern frontier of Tibet

is decided by the species of trees which are found there. The upper limit of the bamboo forests marks the border of Bhutan, and the beginning of the pine woods that of Tibet.

Economic exploitation in Tibet is extremely limited. Vast mineral resources, which certainly exist in the east, are left untouched.



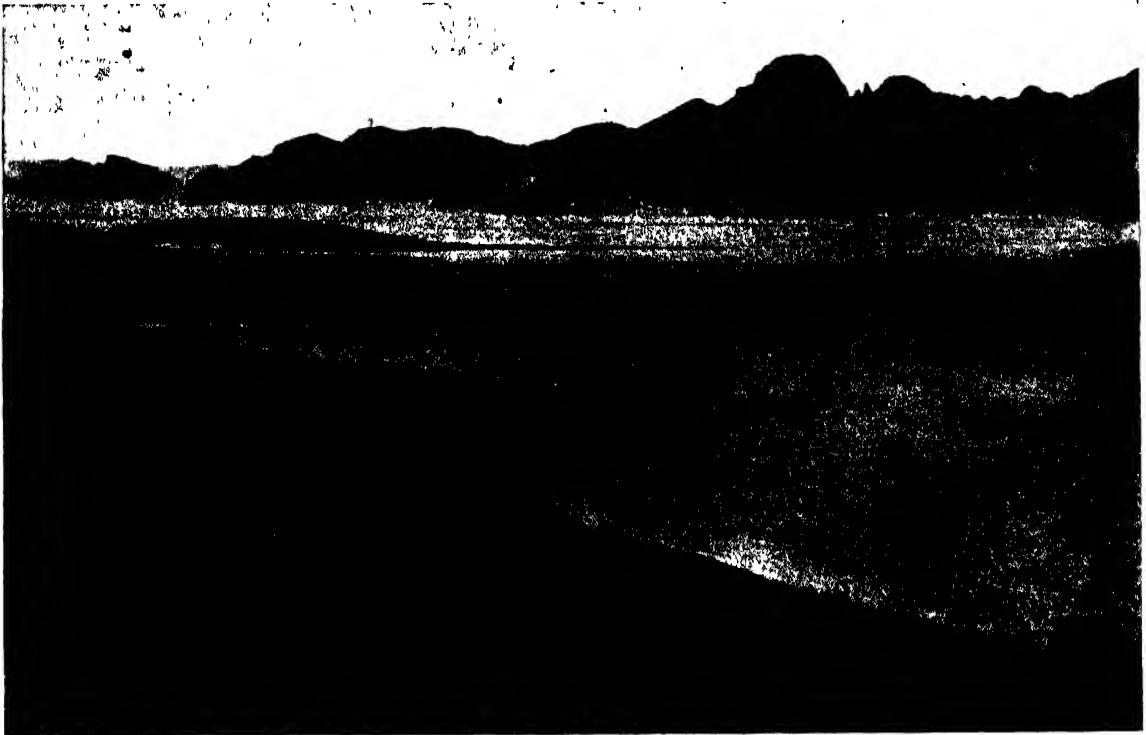
A TRIBESMAN OF MONGOLIA

The bow and arrow were until comparatively recent times the only arms used by the Mongolian, and are still the typical equipment of the Mongolian warrior

Photo: Wide World

THE FAR EAST

(China; Manchukuo (Manchuria); Japan)



INNER MONGOLIAN SCENE

Sand-dunes rising to the peaks of Mount Chihfeng. Chihfeng means literally "crimson peak," and is famous for its beauty in the crimson hue of the setting sun

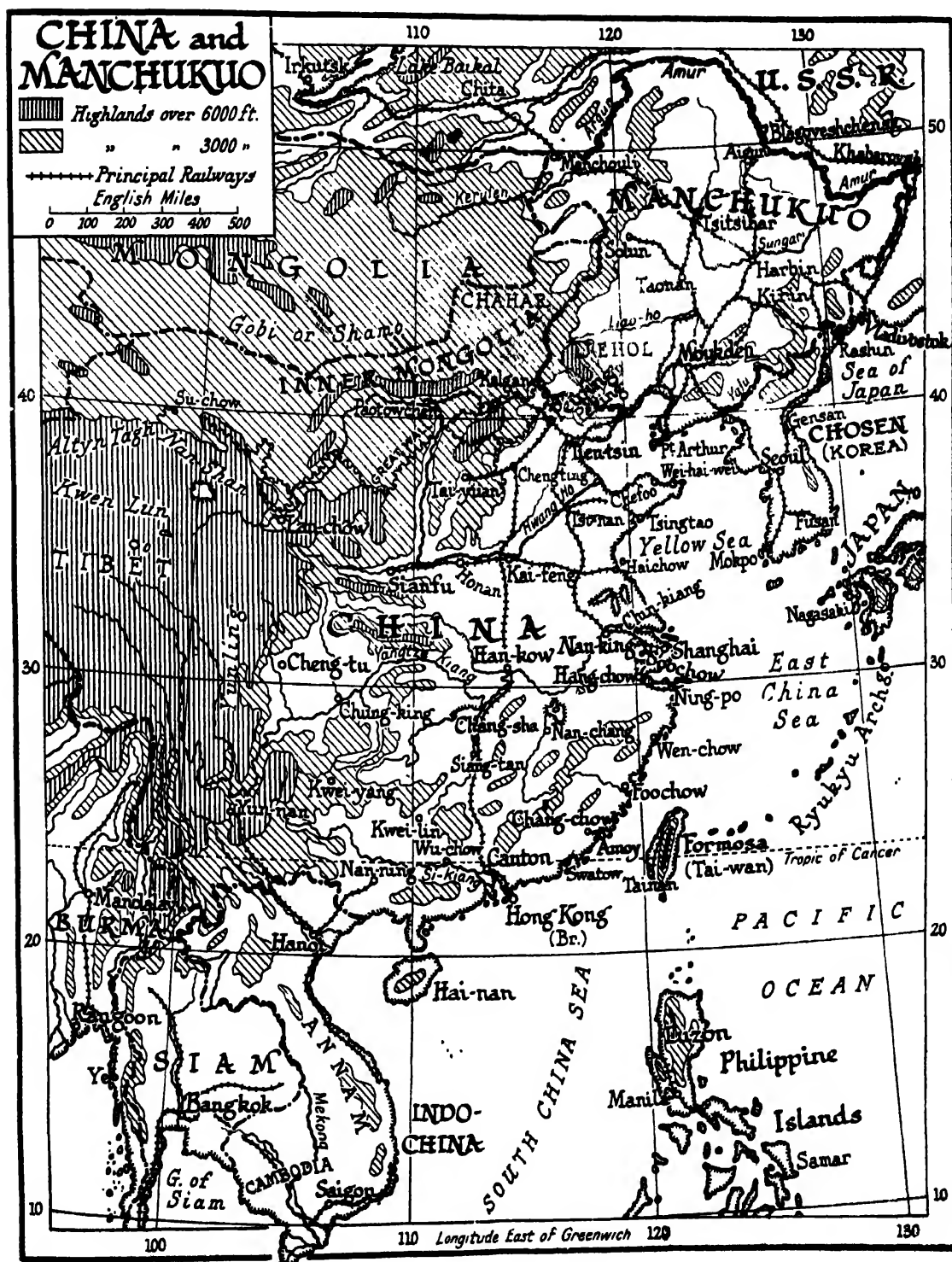
Photo: Nippon Yusen Kaisha Line

CHINA

FROM the scenic point of view China must be regarded as a continent rather than a country. China together with Manchukuo has an area of 4,500,000 square miles and an estimated population of about 484,000,000, and is divided into thirty-two provinces. As it extends from latitude 20° north to 54° north, there is a great diversity of climate. In the north the rivers are frozen for several months in the winter, but the summer is almost tropical. In southern China the climate the year round is warm and moist, the mean

temperature at Canton in the winter months being about 60° Fahrenheit.

Mountain ranges run across China from the Pamirs, in a north-easterly direction, to Siberia, and, in a south-easterly direction, to Kwangsi and the coast of Chekiang. A great part of Sinkiang (former Chinese Turkestan), China's largest province, is desert, and another large desert, the Gobi, divides northern China from Outer Mongolia, which was formerly a Chinese Dependency but was recognized in 1945 as an autonomous and independent state. A feature



of several of the northern provinces is the loess formation, characterized by its terraced structure and its vertical cleavage. It is a soft, friable, buff-coloured rock, easily reduced between the fingers to an impalpable powder, and extremely fertile when the rainfall is adequate. Rivers and streams cut down through it to the rock formation below, often running between vertical cliffs hundreds of

ordinary draught animal, and the absence, until recently, of motor-roads has led to the wheelbarrow and canal craft becoming the commonest forms of transport.

Although rice is cultivated in nearly every province it is not the staple diet in the north, where wheat, millet and other cereals form the ordinary food of the population. Rice is cultivated under water, and a feature of the



SKYSCRAPERS OF CANTON

Photo: Chinese Consul General

feet high, and such roads as exist also become to all intents and purposes cuttings.

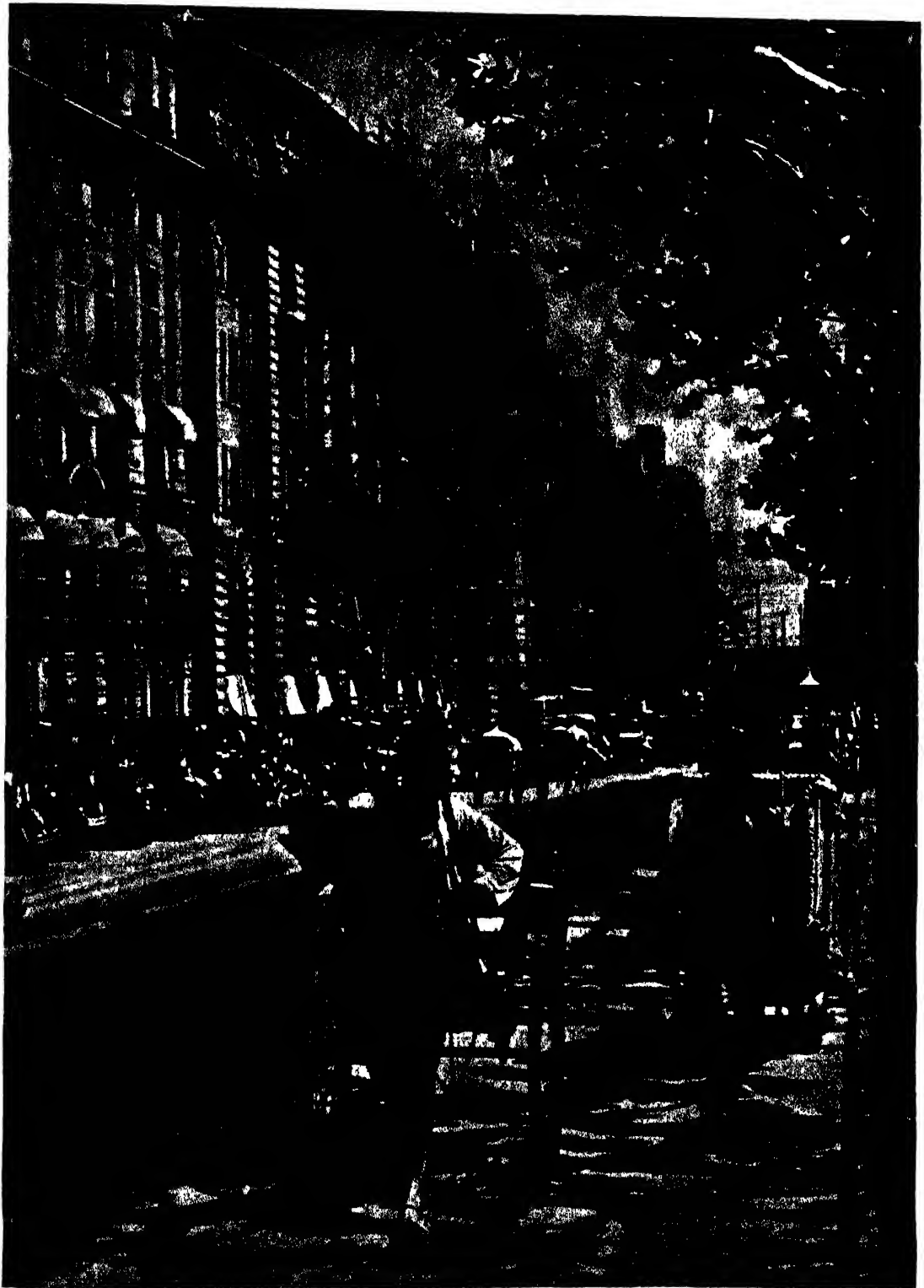
China in general is lacking in afforestation. The largest timber reserves are to be found in the provinces of Manchukuo (under Japanese control after 1931, but returned to China in 1945, see p. 726). Bamboos, however, are found in large quantities in central and southern China; and other timbers include fir, pine and camphor trees. The vegetation in south and south-western China is sub-tropical.

In the north camels, ponies, and oxen are used as beasts of burden, and primitive carts are in general use. In the Yangtze Valley and the south, the buffalo or the donkey is the

Chinese landscape, especially in central and southern China, is the paddy-field, surrounded by narrow dykes, which are used as paths, and often extending in terraces almost to the summit of the lower ranges of hills.

The basins of the two largest rivers, the Yellow River and the Yangtze, form a vast alluvial plain, the fertility of which, however, depends upon the absence of floods or droughts.

In a country so vast in size it is hardly surprising that every variety of scenery should be found. There are snow-capped mountains of Himalayan dimensions in the far west. Chungking, the chief port in Szechwan, until recently could only be reached by boats tracked through



RICKSHAW ON THE BUND, SHANGHAI

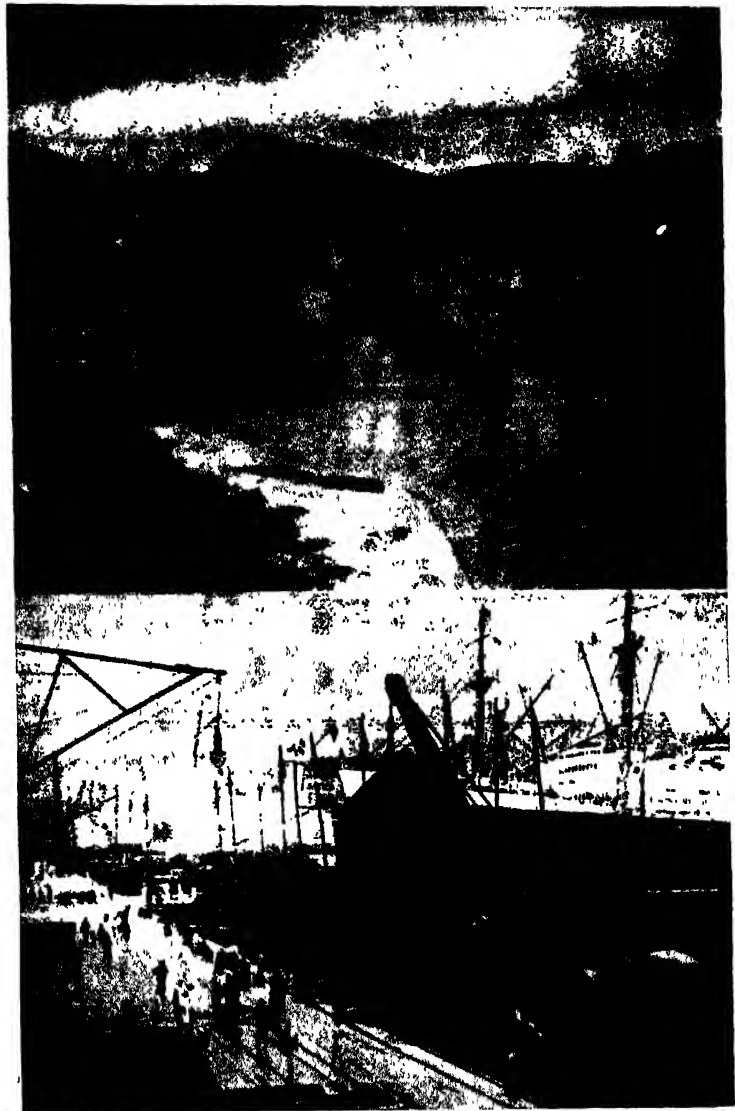
Photo: Norddeutscher Lloyd

the imposing gorges of the Upper Yangtze. Other rivers such as the Chientang, in Chekiang and the West River, in southern China, are also noted for their scenic beauty.

Until the recent construction of some thousands of kilometres of motor highways only intrepid travellers ventured far off the beaten track. The absence of hygienic hotel accommodation in all but a few important centres constituted only one of the obstacles to visits to centres of historic or scenic interest. Another difficulty was the enormous distances to be covered, and the absence of rapid means of transport. At the beginning of this century it took anything up to twelve weeks to travel up the Yangtze from Shanghai to Chungking. Specially constructed steamers for negotiating the rapids reduced the duration of the trip to from twelve to fourteen days. With the advent of commercial aviation services it became possible to fly from Shanghai to Chungking—and even on to Chengtu, the provincial capital of Szechwan—between dawn and dusk.

China, as a result of long centuries of a peculiar, but characteristic, civilization is a rich storehouse of archaeological and art treasures. Many of her walled cities, with their palaces, pagodas and other monuments have remained virtually unchanged for many hundreds of years. Chinese porcelains and silks, carved jades and ivories, have attained world-wide fame. A marked deterioration has, however, ensued from the impact of Western civilization.

In 1949 the Communists obtained full control of China, and by the end of that year the Kuomintang regime under Chiang Kai Chek was confined to Taiwan, Hainan and a few other small island groups. The "People's Republic of China" was proclaimed in September, 1949. Peiping at the same time reverted to its



CONTRASTS IN SHIPPING

Above: A fishing fleet anchored off a village only a few miles from Hong Kong.

Below: Ocean-going liners in Hong Kong harbour

Photos: Thos. Cook & Son, Ltd.; Norddeutscher Lloyd

former status as the national capital and to its old name, Peking.

Canton. The trading emporium of southern China, and historically the earliest point of contact between the merchants of the West and the East, Canton has been modernized in recent years. The city walls have given way to a broad thoroughfare. Wide roads also intersect the city, and motor vehicles and trams have replaced the sedan chair of former days. In addition to carrying on many of the old handicrafts, Canton is now an important



A CHINESE COUNTRY TEMPLE

A many-storied pagoda is the most typical form of the ancient temples

Photo: Fox

industrial centre. A considerable percentage of the population still resides in small river craft. Motor highways connect the city with its fertile hinterland, noted for its silk. Railways link up Canton with the British colony of Hong Kong, and with Hankow, the principal port and industrial centre on the middle Yangtze. A short trip by air to Hong Kong enables the traveller to reach Europe or the United States of America in eight or nine days by B.O.A.C. or Pan-Pacific aeroplanes.

Hong Kong. The Crown Colony of Hong Kong, with its large and beautiful harbour, may be regarded as the clearing house for trade to and from the West. The original

colony consisted of the island of that name—then barren and sparsely populated—with an area of thirty-two square miles, which was ceded to Great Britain in 1841. Surrounding islands and territory on the mainland, increasing the area to some 390 square miles, have since been leased or ceded to Great Britain. With a population of about 2,000,000, Hong Kong, in respect of tonnage, is now one of the largest ports in the world.

Shanghai. Although making no claim to scenic beauty, Shanghai, as China's largest port and industrial and commercial centre, is worth a visit. There is little that is Oriental about its appearance as one comes up the river, for the main portion of the waterfront is occupied by buildings of Western style, some of which attain sky-scraper proportions. The country around is flat and uninteresting. The old native city, except for the demolition of the surrounding wall and the laying out of a few main streets, remains much the same as it was at the end of last century. Visitors are usually taken to see the "Willow Pattern Tea House," the main feature of which is a zigzag bridge over a filthy pond.

Below the foreign areas, and north to north-east of them, the Chinese Municipality of Greater Shanghai has for some years been carrying out an ambitious town-planning scheme, involving the construction of a civic centre, with a mayor's office, museum and public library of modern construction but in Chinese style, a large hospital, model workers' dwellings, a stadium, gymnasium and swimming bath, and deep-water wharves. A network of broad roads has also been constructed. Enormous damage was done to the civic centre and its vicinity during the Sino-Japanese hostilities of 1937. And one district of the Chinese municipal area—densely populated Chapei—was almost completely destroyed by fire during the Chinese retreat.

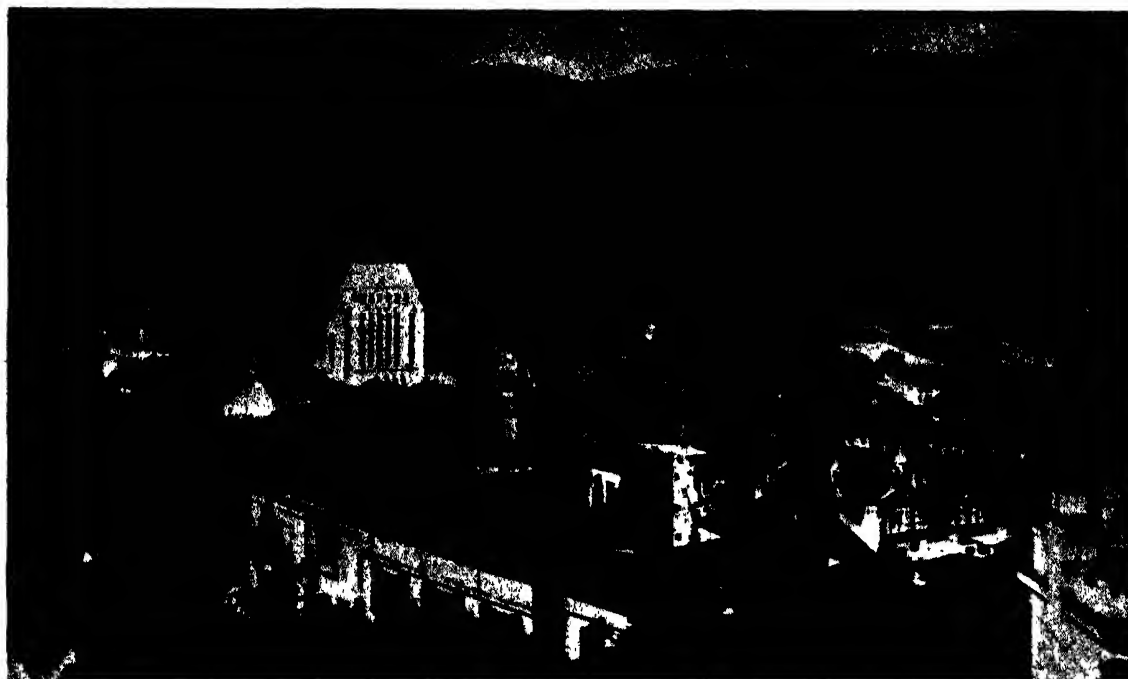
During a period of some hundred years a unique system had developed in Shanghai. This was the International Settlement. Originally a compromise between European traders who were determined to open Chinese markets to foreign trade and Chinese determination not to admit them on terms of equality, the Settlement grew until it became virtually an *imperium in imperio*. It was administered by a cosmopolitan council consisting of British, American, Japanese and Chinese councillors. It ran all the ordinary municipal services, maintained a Volunteer Corps, owned its own police force



RURAL SCENES IN CHINA

1. Packing wool in China's far west on the River Hwang-Ho. 2. A native houseboat on the Yangtze. 3. A street barber. 4. A potter plying his craft, which is one of the many rural industries carried on throughout China. 5. Working a sodden rice field with water buffaloes. 6. A power loom. 7. Threshing rice. 8. Preparing a paddy field prior to planting rice. 9. A mule palanquin

Photos: Chinese Consul General; Keystone, Sport & General; Photographic Publications



HONG KONG

A general view of the harbour.

Photo B.O.A.C.

and fire brigade and possessed the largest gaol in the world.

After the 1939-45 War, however, Britain and America renounced their claims and relinquished the area to the Chinese.

From Shanghai, in normal times, trips can be made by motor-car to a number of places of scenic and historical interest. It is only a few hours' travel (by train or car) to Hangchow, the "Kinsay" of Marco Polo, famed for its temples and pagodas, its picturesque lake, and its silk-weaving industry. "Above is Heaven, below are Soochow and Hangchow," says a Chinese proverb. Soochow, only some sixty miles distant from Shanghai, and also accessible by car and train, is chiefly famed for the beauty of its women. Like Hangchow it is an important silk centre, and celebrated for its wealth and beauty.

On the motor highway between Shanghai and Hangchow one passes through Haining, at the mouth of the Chientang River, famous for its bore. At the equinoxes the flood tide races up Hangchow Bay in the form of a wall of water from six to eleven feet high.

Up the Yangtze. Shanghai is the starting point also for trips up the Yangtze. Large and comfortable river steamers ply between this port and Hankow. Smaller craft continue the

service to Ichang. And thence the trip through the gorges to Chungking is made in high-powered shallow-draught steamers, which cover the upward journey in about four days. Numerous rapids have to be negotiated—formerly requiring the services of hundreds of native trackers—and the scenery in the gorges is unsurpassed anywhere else in the world.

The river trip to Ichang is a monotonous one, and a traveller pressed for time would be well-advised to fly to Ichang, and continue thence by steamer, as the upward journey through the gorges and rapids provides endless thrills.

If time permits, visits should be paid to Mount Omei (11,000 feet), one of China's most famed sacred mountains, which is visited annually by thousands of Buddhist pilgrims, now easily accessible from Chungking or Chengtu, and the interesting salt wells of Tzeliuching, which produce about two-thirds of the salt consumed in Szechwan province. Borings made in a most primitive fashion, sometimes taking a generation or more to complete, tap the brine at a depth of some 3000 feet. It is drawn to the surface by long bamboo tubes, with a leather washer at the bottom, generally raised by buffalo or manpower, and piped to the boiling cauldrons

through bamboo pipes. Natural gas is used as fuel, and also is carried by bamboo piping.

By taking the train from Shanghai to Hankow or Pukow (opposite Nanking) one can reach Peking (Peiping), the capital, in less than two days. If the Pukow route be selected, it is worth while to step off at Chafou, the burial place of China's greatest sage, Confucius. Trips to Taishan, one of China's sacred mountains, about 6000 feet in height, and a popular centre of pilgrimages; and to Tsingtao, one of north China's most popular summer resorts, are interesting.

Peking (Peiping). For many centuries the capital of China, Peking is one of the most imposing cities in the world. It really consists of four cities. The Outer, or Chinese, city to the south, surrounded by a wall twenty-one feet high, remains largely agricultural land. But there are numerous restaurants, theatres, and curio, silk and lantern shops near the main gate to the Tatar, or Inner, City. Within the Chinese city are the Temple and Altar of Heaven (constructed of white marble and

formerly considered the centre of the universe), and the Temple of Agriculture.

The Tatar City of Peking is approximately square and surrounded by a massive wall which is about forty feet high, with a width of sixty-two feet at the base, and thirty-four feet at the top. This wall, over fourteen miles in length, is pierced by nine gates, each of which is protected by a semi-circular canteinte, and surmounted by a loopholed three-storeyed tower. In the south-east corner of this wall is the old observatory, where the instruments made by the Jesuit, Verbiest, in the latter part of the seventeenth century, may still be seen.

Nestling under the southern wall and just to the east of the main gate (Chien Men) of the city is the Legation Quarter, laid out and surrounded by a broad glacis on the west, north and east, after the siege of the Legations in 1900. In the centre of the Tatar City, surrounded by a red-brick wall, is the Imperial City. Within it again, encircled by a broad moat and crenulated walls, is the Forbidden City, the former Imperial Palace. The main



THE GREAT WALL OF NORTHERN CHINA

Varying from fifteen to thirty feet in height and stretching for 1700 miles, the Wall, which was built to keep out the Tatars, is a fitting monument to the Tsin (or Chin) dynasty from which, though it ruled for less than half a century, China takes its name

Photo: Norddeutscher Lloyd



PEKING

Above: The Temple of Heaven. Below: Entrance gate to the Forbidden City

Photos: Hamburg-America Line

entrance to the Forbidden City is to the south. The Forbidden City some years ago, after the forcible ejection of the Manchu Emperor, was converted into a state museum, in which selections of the former Imperial treasures were on view. They have since been removed, after considerable pilfering, first to Shanghai, later to Nanking, and are now believed to be concealed in various safe places up the Yangtze.

Peking and the environs abound with buildings of historic interest. Visitors should see the Summer Palace, built on a lakeside about seven miles north-east of the Tatar City by the late Empress Dowager; the Jade Fountain; the Coal Hill and the lake behind the Forbidden City; and the Lama and Confucian Temples. The Great Wall, from fifteen to thirty feet high and 1700 miles long, one of the wonders of the world, can be reached near Nankow Pass by train or car, and a visit should be paid to the old Ming Tombs, striking examples of Chinese architecture at its best. The most imposing of these tombs is that of the Emperor Yung Lo, founder of modern Peking, who died in A.D. 1424.

Peking was continuously the capital of China from the time of the third Ming Emperor (1421) until the establishment of the Kuomintang regime (April, 1927).

Nanking. The city is situated on the right bank of the Yangtze, 193 miles by rail from Shanghai; its name means "Southern Capital." Its history as a walled city dates back to the Han Dynasty (206 B.C. to 23 A.D.). It was the capital of the Wu Principality, in the second century, and became the national capital under the Mings, in 1368 A.D.

Nanking is surrounded by a massive wall, ranging in height from thirty to fifty feet, thirty-two miles in length, and pierced by thirteen gates. It is connected by railway with Shanghai and Wuhu, and (by a railway ferry to Pukow) with Tientsin and the northern railway system. It is the centre of a number of important highways. During recent years the city walls and many of the adjacent hills were put out of bounds for military reasons.

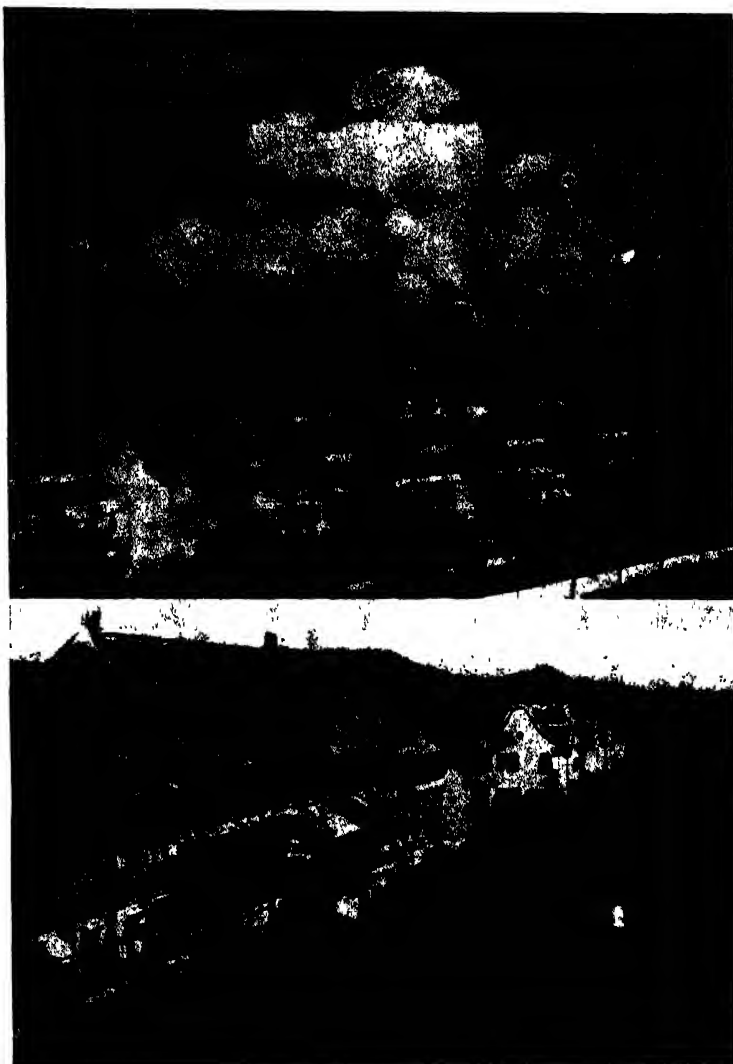
The city was completely transformed during the years of Nationalist control. A network of broad, well-surfaced streets was constructed, modern waterworks and generating plant installed, the purchase of a railway ferry from Great Britain enabled passengers to make the trip from Shanghai to Peking without a change of train, and scores of imposing government offices were erected. The whole city was zoned for

residential, business, banking, industrial, and government sections. The rather arbitrary course of confiscating land fronting on the more important thoroughfares, which had not been built upon within a certain time-limit, was adopted.

Many new government buildings were completed between 1928 and 1937, one of the most imposing being the offices of the Ministry of Railways, constructed in Chinese style with roofs of temple tiles, and lacquered pillars. Others included the Reception Hall for Overseas Chinese, and the Officers' Moral Endeavour Association. The higher educational institutions included the National Central University (a government institution) and the University of Nanking and Ginling (Women's) College established by Protestant missionary organizations. The Academia Sinica had its headquarters, and maintained a museum, in the city. That Nanking retains few buildings or monuments of historical interest is due mainly to the Taiping rebels who occupied the town in 1853. Ruins of the old Ming Palace still exist in the southern portion of the city. A large stadium has been constructed to the south-east of the city.

In 1937, the Sino-Japanese war began, and Nanking was one of the first cities to be attacked and occupied by the Japanese. The fighting in and around the city was a forecast of what was soon to happen in cities all over the world, but for the Chinese Nanking was a great loss. Much of this, their latest and most modern city, was destroyed.

Natural Resources. Densely populated though China is, her natural resources have, as yet, barely been plumbed. For many centuries China has been noted for her silk and her tea. But whereas tea was formerly her main export, and China enjoyed a virtual monopoly of the tea plant, to-day the bulk of the foreign markets have been captured by



GOVERNMENT BUILDINGS AT NANKING

Above Ministry of Communications Below Ministry of Railways

Photos: Chinese Consul General

Indian and Ceylonese teas. In the production of silk the same deterioration has set in. By the time the second World War broke out China had fallen a long way below Japan in this commodity, and the exports of raw silk in the years following the war have, like those of tea, shown a marked decline.

China has for long also been noted for its production of wood-oil and pig's bristles, as well as for sheep's wool of short staple, used mainly for carpet manufacture. At one time it was estimated that she furnished about 75 per cent of the world's commercial supplies of pig's bristles.

Wood-oil, the product of compressing the seeds of the *tung* tree (*Dryandra cordata*), is used



A SOYA BEAN FIELD IN MANGHUKUO
The bean is edible: its oil is used for candles and soap.
Photo: Nippon Tosen Kaisha Line

for the manufacture of varnish, paint, lacquer, linoleum, printing ink, etc., and it became an increasingly important export product. The bulk of the supplies used to go to America, and for many years China enjoyed a complete monopoly of this vegetable oil, but during recent years, owing to adulteration, and erratic taxation on the way to the coast, extensive planting of the *tung* tree has been undertaken in the United States of America.

Between the World Wars China became an important source of supply for eggs and egg products. Modern factories in Shanghai and elsewhere froze the eggs for export, or prepared them in the form of frozen melange, moist and dried egg products. Hides and skins, and various seeds, especially cotton seeds and sesamum, were also important items of export.

The direction of China's trade has changed since the People's Government was established. Between 1950 and 1952 exports to the Soviet Union and other Communist countries increased from 26 per cent to 72 per cent of the country's total overseas trade, and the tendency is for this increase to be progressive.

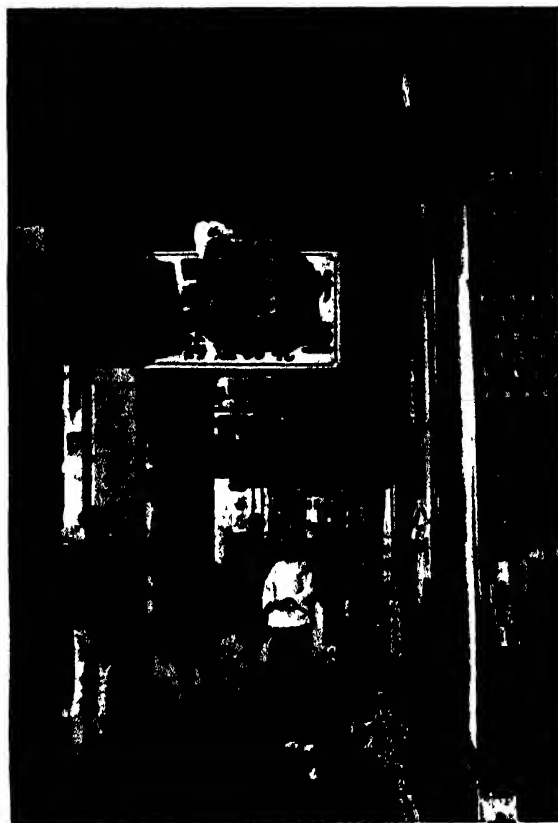
Mineral Deposits. Coal has been located in nearly every province. The reserves are estimated at 262,941 million tons. Some of the most important coal-mines are in Manchukuo, where they were being operated by the Japanese. But China proper has an annual production of about 18,000,000 tons, of which about 15 per cent is exported. The consumption of coal *per capita* is extremely small, averaging only 0.055 ton per annum.

China's iron ore resources, estimated at 1984 million tons (of which 17 per cent is in Manchukuo) are mostly of low grade. Very little smelting is done in China. Most of the available blast furnaces closed down, and the

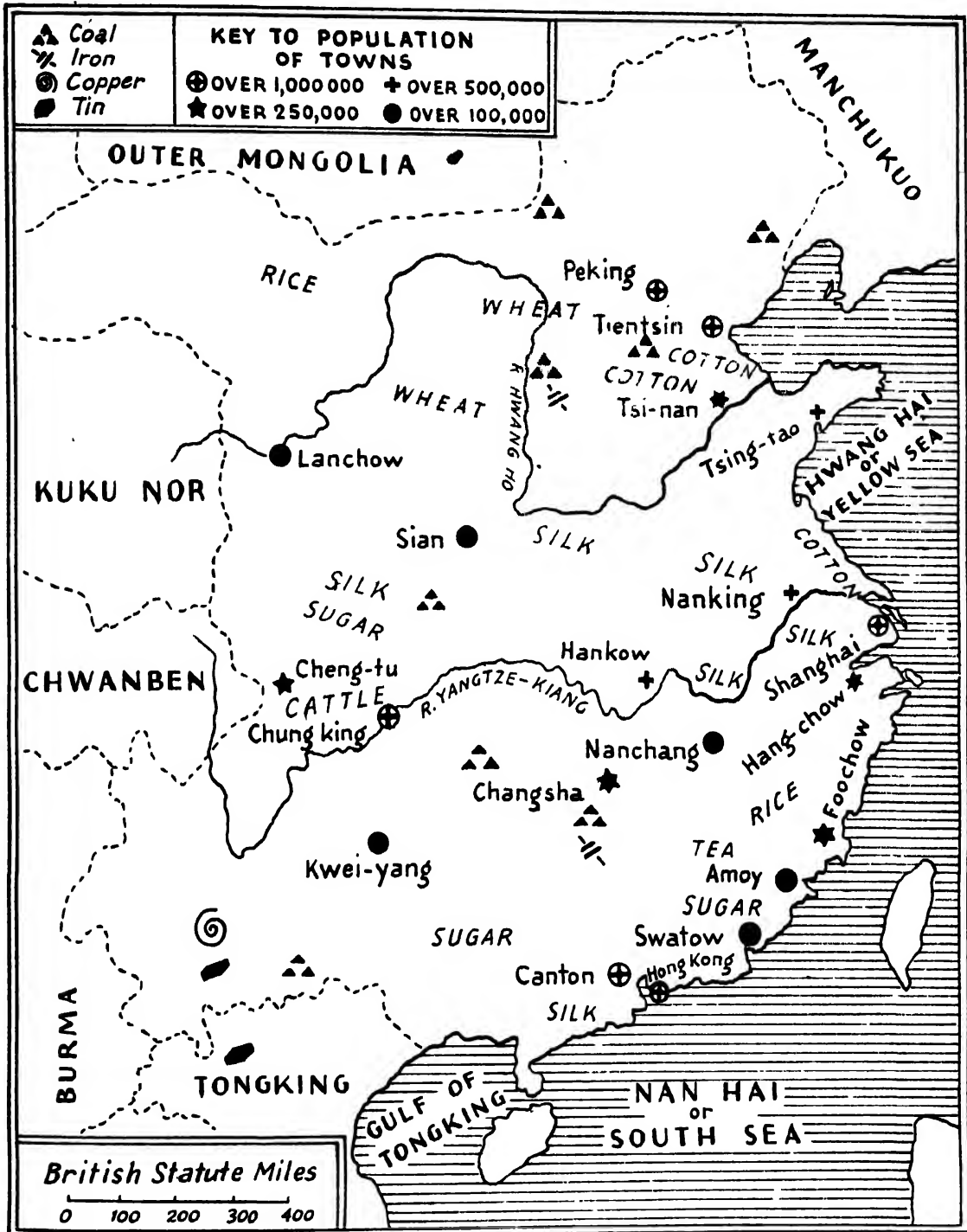
bulk of the ore was exported to Japan before the 1937 War.

The bulk of the world supplies of antimony and tungsten come from China, which used to be responsible for about 74 per cent of the former and 40 per cent of the latter. Both these ores come from provinces south of the Yangtze. Tin is produced in considerable quantities (over 4,000 tons per annum) mainly in Yunnan, but China imports about half the quantity she exports. Other minerals of economic importance are fire and porcelain clays. Petroleum deposits exist in Shensi, Kansu, Sinkiang and Szechwan, and are now being worked on an ever-increasing scale. The Japanese installed a shale-oil plant at Fushun Colliery, in Manchukuo, where they were aiming at an annual production of 145,000 tons of crude oil.

Industrial Development. There had been extraordinary industrial development in China during pre-war years, a great deal of it on foreign initiative. This was especially true of the cotton-spinning industry. Out of more than



HONG KONG
A shopping scene in the native quarter
Photo: Norddeutscher Lloyd



5,000,000 spindles, 500,000 doublers, and 52,000 looms operating in the middle of 1937, 2,100,000, 346,200, and 72,500, respectively, were in Japanese-owned mills. British interests operated five mills, with 261,000 spindles, 6360

doublers, and 4000 looms. The other mills were Chinese-owned. Rather more than 4,000,000 spindles were operating in 1952.

Numerous silk filatures operate in the Shanghai, Kiangsu, Chekiang, and Kwangtung

districts. Flour-milling is another Kiangsu industry.

The British American Tobacco Co., trading in China under the name of the Yee Tsoong Tobacco Co., had a number of large cigarette factories, and was responsible for the introduction into China of Virginia seeds.

Flour-milling is another important industry. It has been estimated that the consumption of

well established. Minor industries of increasing importance are the manufacture of electrical apparatus (fans, stoves, electric light bulbs, etc.) and of rubber and celluloid goods.

Labour Conditions. Given peace and order industry ought to develop rapidly in China, owing to the low cost of labour, and the abundance of raw materials. Generally speaking, however, industries under Chinese management have not proved financially successful. This has been due to several causes, the chief of which have been under-capitalization, and lack of reserves, and nepotism in the selection of the staff. A Chinese factory owner or manager often feels constrained to import scores of members of his family into the concern, regardless of their qualifications, and of the number of jobs actually available. Chinese industry, concentrated in the Shanghai area, was in the front line after 1937, and suffered badly. Most of the Chinese mills and factories in the vicinity of Shanghai were destroyed or were seriously damaged, and the same is true of other industrial centres like Soochow, Wusih and Hangchow. The tendency became to remove factories from the coast into the interior. In Shanghai itself, even in the Foreign Settlement where many factories escaped with little or no damage, the problem of resuming work was complicated by the fact that whole streets of workers' residences had been destroyed. The normal scale of wages paid did not permit of daily expenses for transportation by bus or tram from the undamaged residential areas.

Progress in certain important industries depends on the extent to which China can improve her raw materials. Considerable energy has been devoted of late years to attempts to produce longer staple cotton, better grade wool, disease-free silk worms, and better quality tea and wood-oil.

While village life continues on much the same lines as for centuries past, save for the introduction of kerosene oil as an illuminant, and the substitution of cigarettes for the native pipe and tobacco, conditions in the larger towns have undergone a remarkable change during the past few decades. There has been much road construction in, and between, the larger cities. Many electric power plants have been installed, and not a few modern waterworks. Bus services regularly operate over thousands of kilometres of new highways. And there has been considerable new railway construction.

Perhaps the most remarkable development



SOOCHOW

One of China's most picturesque towns; flat-bottomed sampans are shown under a rough wooden bridge

Photo. Wide World

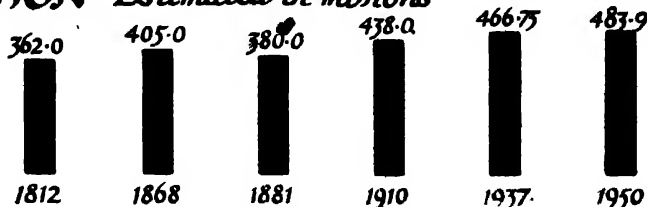
wheat flour in China (excluding Manchukuo) has now risen to 1,220,000,000 bags of 49 lb. each, of which some 75,000,000 are milled in the country. About 100 flour mills are normally in operation.

Heavy import duties on matches have encouraged the establishment of match factories and it is estimated that there are seventy-three factories in China.

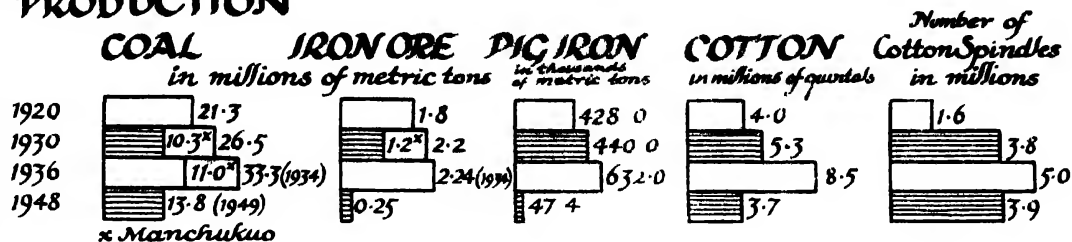
The cement industry has an annual output of some 550,000 metric tons. Porcelain, formerly very important, has suffered from internal disorder; the most important centre was King-tehchen, in Kiangsi. The tanning industry is

CHINA

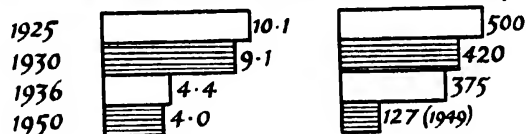
POPULATION *Estimated in millions*



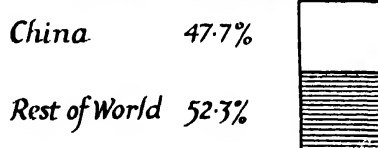
PRODUCTION



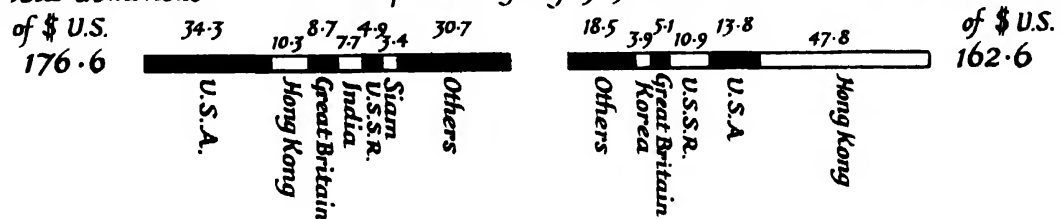
Exports of RAW SILK & TEA *in thousands of metric tons & thousands of quintals.*



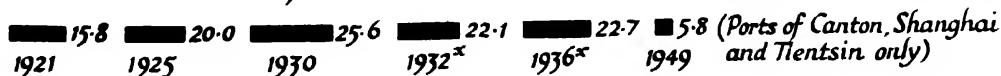
SOYA BEANS *in relation to world production.*



IMPORTS FOREIGN TRADE by Countries *Total in millions of \$ U.S. in percentages of 1949 Totals*



SHIPPING *Vessels Entered in millions of Tons Register*



FORMOSA

POPULATION

in millions
7.85

AREA

in thousands of sq. miles
15.4

TRADE 1949 in millions of \$ U.S.

IMPORTS - 58.8

EXPORTS - 65.5



SACRIFICE TO THE GODS

Part of a procession taking a wagon load of food and drink offerings to lay before the principal deities in a Shinto shrine. The giant tub in the background contains enough provisions to keep a temple retinue in food for several months.

Photo: Keystone

in communications has been seen in aeroplane services. The former Sino-American and Sino-German Corporations have been replaced by an exclusively Chinese-owned and Chinese-operated Civil Aviation Company and a jointly-operated Sino-Soviet Civil Aviation Company. The transport of freight as well as passengers and mail by air is becoming more and more common. Between 1937 and 1939 the Burma Road was built to open up communications from the south-west; 770 miles in length, the road runs from Lashio in Burma to Yunnan. The journey takes seven days.

Life of the Peasant Farmers. It is estimated that some 74 per cent of the Chinese population is employed in agriculture. There is probably no other country in the world where the soil is so intensively cultivated. Indeed, the cultivation of rice, one of the staple foods of the people, has been compared to gardening, rather than farming. The methods and appliances used, however, are extremely

crude, and larger crops could undoubtedly be raised by the wider use of chemical fertilizers, and modern farming implements. The difficulty that arises here, however, is that the individual farms are so small, and have to support so many mouths, that the farmer has little capital to spend, nor, on the smaller holdings, would the return suffice to meet the additional outlay.

The kerosene lamp, which has to a large extent replaced the old and inefficient vegetable oil lamp, has encouraged the development of cottage industries. Unfortunately some of these, such as hair-nets, lace, and strawbraid depend upon the fashions of the moment.

Burial Customs and Superstition. An obstacle to the full use of agricultural land is the Chinese burial custom. The dead are disposed of, not in cemeteries, but upon their family property, with the result that a considerable percentage of what would otherwise be productive land is given up indefinitely to grave-mounds. This practice of indiscriminate burial has also proved a serious obstacle to road and railway construction until recently, when the authorities have expropriated land regardless of ancestral graves. In the urban areas, however, it is still usually necessary to enter into tedious negotiations for the removal of family graves before any property can be taken over for residential or industrial buildings.

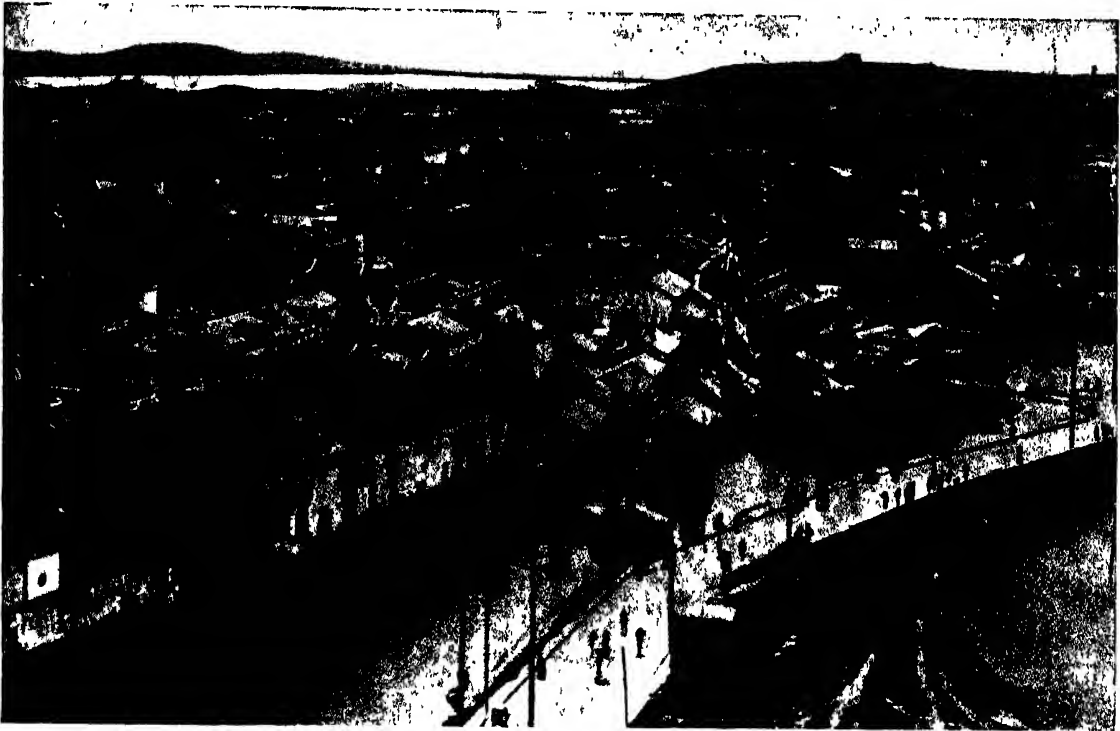
Superstition plays a large part in the life of the Chinese. There being no common religion except ancestor worship, the ordinary Chinese



PRIMITIVE TRANSPORT

A poultry seller with his wares carried in baskets on the back of the donkey. The Chinese prototype of the European itinerant vendor.

Photo: Keystone



GENERAL VIEW OF HANKOW

Photo. Central

endeavours to placate gods and devils by impartial support of Taoism and Buddhism. Devils have to be placated or outwitted throughout the daily round. They are bought off at funerals with imitation silver money. They are prevented from entering dwellings by spirit gates which are constructed in front of the main entrances. They are supposed to be deluded into thinking that scaffold poles of new buildings are trees by the tying on of a few twigs at the top.

The diet of the Chinese is mainly vegetarian, though they also consume large quantities of fresh and salt water fish. The ox and the buffalo being used as beasts of burden are too valuable to be killed for eating. Sheep are only bred in the north and north-west. The favourite meat is pork, but few Chinese can afford a meat dish daily. The staple foods are cereals, rice in the south and mid-China, flour, millet, and kaoliang in the northern provinces. Vegetables and fruits are also consumed in large quantities. The wealthier classes have a more varied diet, and a formal dinner may include some thirty or forty different dishes, including such luxuries as sharks' fins, birds'-nest soup, sea-slugs, etc.

Currency. The tael, a weight not a coin, of silver, was before the internal war, the medium

for larger payments, the ordinary "shoe" weighing some fifty taels. Dollar coins, mainly of foreign minting were used extensively in the Treaty Ports, and for foreign trade. Under the Republic various Chinese dollars were minted, but in 1935, owing to violent fluctuations in the world price of silver, the Chinese Government called in all silver coinage and went on to a managed currency, notes of the Government banks constituting legal tender, and the exchange rate of the dollar being fixed at 1s. 2½d. This value was maintained until 1938, when progressive depreciation commenced. In 1948 the Gold Yuan was introduced, only to collapse again during the Communist advance in 1949. The new legal tender is the "People's Dollar," the exchange rate of which has had to be adjusted frequently.

The Written Language. Chinese writing is in the form of ideographs, of which there are many thousands. To write or read Chinese required years of study, and as facilities for education, especially in the rural districts, were limited, some 90 per cent of the population was illiterate. The classical form of writing and printing was far too complicated for the masses, and of recent years most books and newspapers have been printed in what is called *Pai Hua*, a simple colloquial form of Chinese. The mass

education movement—in which a limited number of characters, usually from 1000 to 2000, are employed—has made considerable headway.

What the masses know of the history, traditions and folklore of the country is derived mainly from theatricals. Travelling troupes of performers attend most fairs and market days, and with the crudest of scenery perform plays which have been familiar to the people for

As a race the Chinese lack cleanliness. It is difficult for a traveller outside the old Treaty ports to find accommodation that is not verminous and the extensive use of human excrement as manure makes it dangerous to consume raw fruit or vegetables. The population would suffer much more than it does from water-borne diseases but for the fact that hot tea (made with boiled water) is the ordinary beverage.



A WEDDING MARCH

Photo: Thos. Cook & Son, Ltd.

many generations. Until very recently the female as well as the male roles were taken by male actors.

Hygiene. Although modern medicine and surgery are no longer frowned upon by the government, the number of Western-trained doctors is still so small that the bulk of the population depend upon traditional remedies, and old-style physicians. Though some of these remedies undoubtedly possess medicinal properties, the methods of compounding and administering them are extraordinarily crude. Tigers' bones and sinews, deer's horns, and fossilized bones, as well as concoctions made up of snakes and insects, figure in the Chinese pharmacopoeia. Superstition and lack of scientific methods are responsible for many deaths at childbirth, and during epidemics of infectious disease. Smallpox, dysentery, enteric and typhus fevers, plague and many diseases due to dirt and unhygienic conditions, are common.

Though the Chinese claim to have invented paper, printing, the compass, and gunpowder, they have contributed little if anything to modern progress or science. They are excellent artisans, though best perhaps at imitative work. Some handicrafts, such as the carving of ivory and jade, have been brought to such perfection that a craftsman may spend the greater part of his working life on producing one specimen.

Though the written language is standardized, the dialects in different parts of the country differ from each other almost as much as, say, English and Flemish. Mandarin is the official language, and is learnt by the scholar class throughout the country. But the ordinary people of Peking and Canton would be unable to understand one another unless they could resort to writing. The physical characteristics of the people also vary considerably. Mongols and Tibetans, northerners and Cantonese are

of widely different types, and aboriginal tribes are found in the south-west, especially in Yunnan Province.

Wild and Domesticated Animals. As might be expected in a country of such a size, China has a wide variety of fauna, ranging from sub-tropical to Palaearctic. The rhinoceros, tiger and leopard are found in the south and south-west. Tigers are also found in various coast provinces, and in Manchukuo, the Man-

After the first Anglo-Chinese War five ports—Canton, Amoy, Foochow, Ningpo, and Shanghai—were opened to foreign residence and trade, and the number was afterwards augmented by later Treaties, or at China's own initiative. In the more important centres—Shanghai, Hankow, Canton, and Tientsin—Settlements or Concessions were established which were under foreign municipal administration. The principal foreign governments,



A FUNERAL PROCESSION

Photo Thus Cook & Son, Ltd.

churian species being among the largest in the world. In the west are found the panda and giant panda, species peculiar to China, and generally described as "cat-bears," and the yak, while farther north is the habitat of the takin (a goat-like animal the size of an ox), the wild ass, and the camel. Numerous species of pheasants including the beautiful golden pheasant, are found in different parts of the country. China is the only country outside of the New World in which a species of alligator exists. It is quite common in the lower Yangtze, but smaller in size than the Mississippi species.

Foreign Trading Concessions. Foreign residence and trade used to be restricted to fifty centres—not all on the coast or waterways—known as Treaty Ports. Prior to the forties of last century, foreigners were only permitted, under stringent restrictions, to reside and trade in the so-called "Factory" area at Canton.

under what is known as the system of extra-territoriality, retained civil and criminal jurisdiction over their nationals.

The Chinese although naturally industrious and peaceable, are nevertheless subject to waves of xenophobia. Taught for generations to regard themselves as a superior race, and the foreigners as barbarians, they can only too easily be roused to anti-foreign excesses.

Great Britain and America, however, finally relinquished their claims after the 1939-45 War. The return of these ports started as long ago as 1917 and before the war Britain had already relinquished certain of her rights.

Missionaries, under the Treaties, were entitled to rent or purchase property in any part of the country, and they have played a very important part in bringing to China the advantages of modern education, and medicine. The work of their hospitals has gone a long way

towards overcoming the natural prejudice of the Chinese to foreign medical and surgical treatment, though an element of risk still attaches to the performance of major operations if the result is unsatisfactory, and unscrupulous relatives exploit it to foment hostility to the hospital or surgeon involved.

Modern Tendencies. Patronage of wireless and the cinema has increased in recent years by leaps and bounds. Wireless is used largely for party propaganda, but in Shanghai and several other ports there are private broadcasting stations, operated on a commercial basis, which furnish daily programmes of music, news, etc. Outside of the larger Shanghai theatres Chinese descriptions have to be inserted in imported moving-picture films, but China is also developing a cinema industry of her own, with Chinese dialogue and characters.

Prior to 1912 China was an absolute monarchy. In February of that year the Manchu Dynasty abdicated as a result of a revolution, and the form of government, nominally, became republican. In reality the country was for many years the prey of rival warlords, until the emergence, in 1927-8, of the Kuomintang, a political party founded by the late Dr. Sun Yat Sen, which adopted Soviet technique, and with the aid of Russian political and military advisers, overran the entire country. Once having gained a monopoly of power the Kuomintang broke with the Soviets, and attempted to suppress the Chinese communists by force. The Kuomintang claimed a com-

plete monopoly of political and administrative authority, which was at times exercised in a most intolerant manner. The outbreak of Sino-Japanese hostilities in north China, in July, 1937, resulting in a war in all but name, induced the Kuomintang, the communists and other Chinese factions to form a united front to resist the Japanese. In the north the latter overran the provinces of Hopei, Shantung, Shansi and part of Honan; in the Shanghai area, after a fierce struggle they dislodged the Chinese, and occupied Nanking, the national capital.

China declared war on Japan in 1941 when Britain and America also entered the struggle, and conduct of the war came under general Allied strategy.

No sooner had the Japanese surrendered, however, than Communist forces started to move independently in the north, against the orders of the central government. The old rivalry between Kuomintang and Communists was reasserted and Civil War broke out, fighting spreading throughout the country. Efforts were made to conciliate the two parties, but such truces as were made were broken and fighting began again. In 1946 a new Constitution was adopted, but although the Communists had approved its fundamentals they refused to recognize it. It was brought into force in December, 1947. In 1949 the Communists gained complete control, and the People's Republic of China was proclaimed on 21st September, 1949.

Manchukuo (Manchuria)

THE last dynasty to rule China was that known as the Ts'ing, who were Manchurian chieftains; but the Manchu conquerors recognized the superior civilization of China and rapidly adopted everything Chinese. For some time the Chinese were forbidden to settle in the thinly populated Manchu country, but there was always a drift in that direction, and Manchuria became a Chinese colony, rather than a country of conquerors. Restrictions had long ceased to operate when the people of Chihli and Shantung began to look on Manchuria as a place of refuge. Russia had, by arrangement with the Chinese, made the railway across Manchuria to Vladivostok, and

south to Dalny, but though this meant a large Russian incursion, Russians could no more compete on the soil with the Chinese than could the Japanese; so the rate of Chinese immigration steadily increased, and the greatest impulse was given by the brutal misgovernment of General Chang Tsungchang, the provincial governor of Shantung. About 1929 and 1930, Chinese were pouring into Manchuria at the rate of 1,000,000 a year. The South Manchuria Railway gave them a certain amount of assistance; it was a business proposition, for their produce was freight for the railway and trade for the port of Dairen. Meanwhile Japanese interests continued to



THE WEALTH OF MANCHURIA

1. Piling soya beans. 2. A pastoral country. 3. Open-cut mining at Fushun coal-fields

Photos: Nippon Tosen Kaisha Line

increase. There was little pioneer work done by individual Japanese, but the South Manchuria Railway fathered countless enterprises, which, on the solid economic basis of the soya bean, made southern Manchuria a very profitable going concern. Coal and iron were exploited, and the Japanese Navy was greatly interested in the extraction of oil from shale, which existed in practically unlimited quantities.

Many economic and political problems were emerging, and the crisis came on 18th September, 1931. China was not prepared to take the only effective course, and Japan had already repudiated territorial ambitions, so

Japan created a new State at the head of which she put the young ex-Emperor of China—the last of the Manchus—first as Chief Executive and a year later as Emperor. She appointed a full cadre of Chinese officials, each with a Japanese adviser, and Japanese magistrates and police became responsible for justice and civil order, while the Japanese army made itself responsible for defence. Later, the new State, now called Manchukuo, bought the Chinese Eastern Railway from Russia, Japan paying for it. The whole railway system, together with all mineral rights, actual or potential, was placed in the hands of the South



THE PORT OF DAIREN

Photo: Nippon Yusen Kaisha Line

Manchuria Railway, and it was hoped that the Japanese Empire and Manchukuo would form an economic unit, sufficient to itself, and indifferent to a world full of tariff restrictions and immigration prohibitions. It was also hoped that the Japanese, rather crowded on their own island, would find here land for expansion.

These hopes were quickly disappointed, however. Attempts at Japanese settlement were a failure, and it was found that whether as a source of supply or as a market, Manchukuo was sadly insufficient. Japanese plans to make this good by "co-operation with China" did not make the progress that their authors hoped. After 1937 the project was given up altogether when Japan went to war with China. In 1945 Manchuria was returned to Chinese sovereignty.

Agriculture and Industry. Although the political story of Manchuria is one of foreign penetrations and quarrels, economically the country has benefited. Railways opened up the country and agriculture and industry followed, indeed the history of Manchuria is the history of its railways. In 1931 the existing railway system of 4,000 miles was increased by

the Japanese when they endeavoured to open up the timber resources of East Manchuria and the fertile and unused plains of the centre.

The most important crops in Manchuria are millet, kaoliang, maize, beans, rice and cotton in the south, and wheat, barley and oats in the north. As the farmers grow for their own subsistence, the only two important crops that are exported are soya beans and wheat. Both have given rise to important milling industries. The East Manchurian Highlands supply timber for Manchuria, North China and Japan. The forests are a great source of wealth but have only recently been exploited scientifically.

Southern Manchuria has rich reserves of coal and iron ore, but not fully developed until the Japanese needed them for the war. Of coal there are about 4,000,000,000 tons, the most valuable area for which is in the south. Very high-grade coal is produced and as the mines are near the railway centre of Mukden it is likely to become an important field. In the Liaotung peninsula lies the greatest reserve of iron ore in China. The ore, however, lacks a big iron content and there are no nearby supplies of suitable coal for the blast furnaces.

Korea, Sakhalin and Formosa

KOREA is a peninsula extending southwards from Manchuria between China and Japan. In area it is about 86,000 square miles and it has a population of about 29,500,000. Its position between China, Russia and Japan has made it of vital strategic importance and it has been a bone of contention between those powers for much of its long history. Its independence, promised in 1945 by the Allies, would be the attainment of its idea. Although Japan tried to conquer the land as long ago as 1590, the serious trouble did not start until the nineteenth century when Japan, China and Russia all took an active interest in the future of Korea. China and Japan indeed went to war over Korea in 1894 and Japan gained greater influence in the country. Ten years later, in 1904 the Russian part of the triangle was removed and Korea came under Japanese domination being eventually annexed in 1910.

The annexation was a disaster. The country was exploited but the people were ignored. Land was seized and the owners made to work under the Japanese masters as slaves. Freedom disappeared and opposition was eliminated by ruthless massacre and cruelty. The defeat of Japan in 1945 brought renewed hope, but America and Russia temporarily occupied the land until a government could be set up. Rival factions in Korea emerged, however, and civil war raged from 1950 to 1953.

A great mountain chain runs from North to South along the East coast. There are no markedly fertile areas as in China, but rice fields are sufficient to feed the population. Valuable timber areas also exist. The climate is mild and pleasant, and is justly praised in the spring and autumn. Indeed the original name of Chosun or "Morning Calm" may well have been inspired by this climate.

Sakhalin. After the war with Russia in 1904-5 Japan annexed the southern end of the island of Sakhalin, calling it Karafuto. It proved a disappointing acquisition. The climate is severe and did not encourage Japanese emigrants (always one of the reasons for annexing new lands) and petroleum supplies were not as valuable as had been considered. The only thing of value was its

timber, vast quantities of which were used for paper-making. Indeed both Korea and Sakhalin were disappointments for the Japanese, who concentrated most of their attention on Manchukuo. Sakhalin was returned to Russia in 1945.

Formosa. As a result of the war with China, in 1894, Japan acquired Formosa, a partly tropical island about half the size of Ireland, to the south. Its mountains run higher than Japan's and on the north-east coast are the highest cliffs in the world. On the west is a great fertile plain, and on the mountains are some splendid forests, providing great quantities of fine timber. The scenery is magnificent, and there is a great wealth of vegetable products, including the greater part of the world's supply of natural camphor. The inhabitants are of two very different kinds—Chinese of the same kind as in the province of Fukien, across the strait; and the Headhunters—groups of primitive people speaking a variety of languages, and seemingly all imbued with the idea that the proper way to treat an enemy is to take his head, a practice which, of course, is discouraged nowadays.

The Chinese are excellent cultivators, and raise large crops of sugar-cane, for the crushing of which there are numerous mills built by the Japanese. The sugar industry is a growing one and shows promise. The other crops are rice, tea, beans and ground nuts. Two rice crops are grown each year and an irrigation system built by the Japanese has improved both the quality and quantity of the crop. In a good year about 50,000,000 bushels are harvested. Tea is a big export crop, Oolong tea being much favoured in America. Fruit, especially bananas oranges and pineapples, is raised in great quantity.

Mineral resources are valuable and are mainly found in the north. They include coal and lignite, gold, copper and sulphur while the evaporation of salt gives rise to a considerable income.

The island, which had always been mainly populated by Chinese, was returned to China in 1945, and it became the last outpost of the Nationalist forces under Chiang Kai Chek. Its political future is problematical.

Japan

JAPAN has changed more than any other country; only after 1945 did she become modern. The Japan that we knew in 1939 was a feudal country, completely out of touch with the world. She was ruled over by an Emperor considered to be divine, who lived in seclusion from his people, breathing out blessings and curses in the same way as did the medieval Divinity of the Western world. Medieval



THE PRIMITIVE COUNTRY

Timber-framed cottages by a river bank in the mountainous country of the west

Photo Japan Society

Europe, however, had only God's representative on earth—the Pope—whereas twentieth century Japan reckoned that God himself was enthroned in Tokyo. Surrounding and supporting imperial dignity were the great hereditary noble families and land-owners, imbued with the idea that they were the chosen people and that their duty was to ensure their country's supremacy over the world. This was to be attained through military conquest and the Japanese had a fanatical conception of military honour. Defeat and disgrace were cardinal sins; they must not occur.

Within this framework of divinity and fanaticism were planners, men of business, hard-headed schemers, get-rich-quick merchants. They were quick to exploit the inventions of the Western World, building huge industries and modern navies, armies and air forces with which to attain their ends. They turned Japan into a modern country industrially, but turned the people into slaves of

capitalists where before they had been serfs of feudal lords. This development was itself only recent, for Japan had lived in insular seclusion for centuries, defying foreign traders and explorers. It was only in the nineteenth century that Japan was "unsealed" by an American naval commander and it was from that date that Japan grew to be a world power and a world menace.

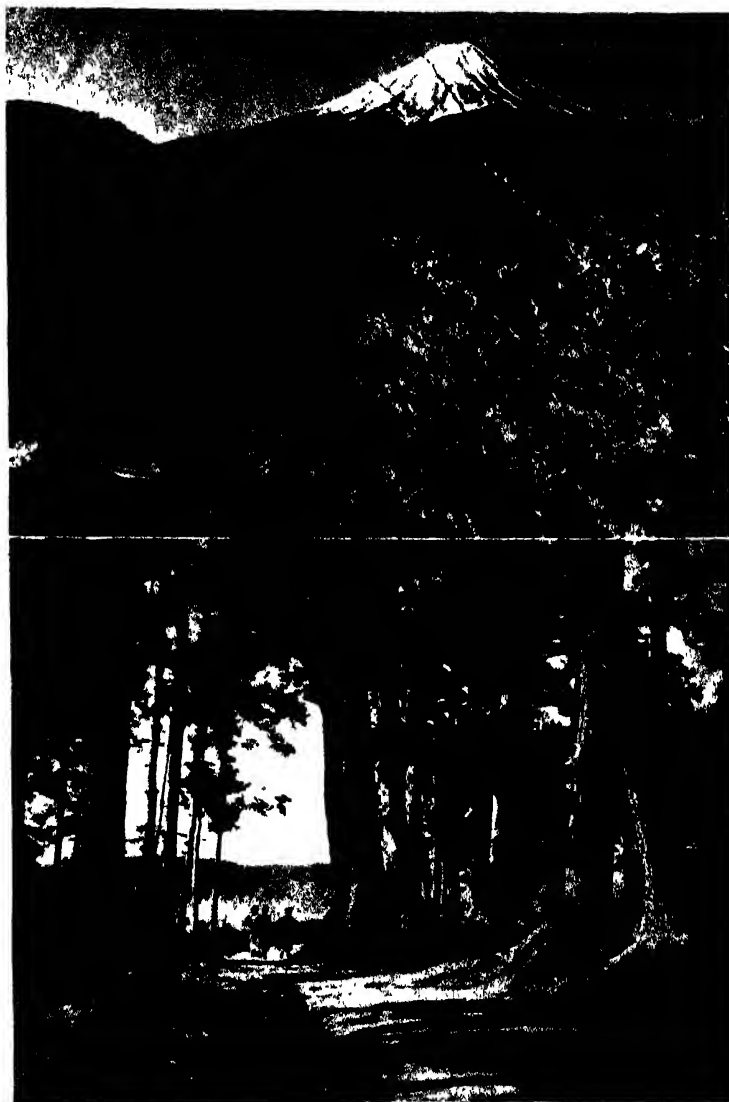
Fanatical though Japanese policy may seem it was nevertheless taken seriously by her own people. It aimed at one thing—world domination. This would never be attained in a short time, it had to be spread over years, centuries if necessary. Every advantage had to be seized, every weakness exploited to further her ambition. Formosa was the first territorial acquisition, taken from China in 1894. Next a cowardly attack on the Russian fleet at Port Arthur in 1904, before the declaration of war, resulted in the gain of that port, the eventual defeat of Russia and annexation of Sakhalin. Korea was annexed in 1910, Manchuria in 1931 and ex-German islands in the Pacific over which she had a mandate, soon afterwards. In 1937 China was invaded, and that struggle was still going on in 1941. Then, allying herself with Germany she took advantage of the weakness in the East of the European countries and joined the World War. Repeating her Port Arthur tactics she attacked the American fleet in Pearl Harbour, launched her armies on a victorious offensive across the Pacific and, advancing through Malaya, Java, Borneo and Burma stood at the gates of Australia and India. Her destiny seemed about to succeed, much of the world seemed within her grasp, the rest could be taken later when Germany had beaten the Western Allies. Then Germany could herself be conquered.

But it was not to be; fate ruled otherwise, and Japan had ignominiously to surrender. The Emperor emerged from his seclusion and to the people was given a democratic constitution. For the first time in history they were allowed to elect their own representatives. Speech, thought and religion became free. Justice was based upon the highest ideals of the West and the belief that all men enjoy the right to Life, Liberty and the Pursuit of Happiness was given to the oppressed people. Under the Allies, democratic government was set up and the task of reconstruction begun.

Feudalism and mysticism vanished, War was renounced and the ill-gotten Empire was returned to its rightful owners.

To make a rough comparison, the Main Island of Japan is nearly as big as Great Britain, the northern island (Hokkaido) rather smaller than Scotland, the southern island (Kyushu) about half the size of Ireland, and Shikoku about equal to Wales. There is the island of Awaji, about twenty miles long, and a vast number of small islands. Though thus considerably exceeding the British Isles in area, the amount of arable land is rather less, because the whole country is mountainous, a great deal being of volcanic origin. The hills rise very steeply, and for the most part bear spruce fir (the *matsu* familiar in Japanese pictures) and other evergreen conifers. Very few rivers have a perennial flow, but there are great numbers which a spell of dry weather reduces to a bare stony bed. There are very few extensive plains, and it is hardly possible to be out of sight of a mountain range. The highest mountain is the isolated peak of Fuji, an almost perfect volcanic cone, slightly active till the eighteenth century, 12,365 feet high, and easily the favourite subject of Japanese art and decoration. But for the most part the mountains form long ramparts, the passes over which often reach several thousand feet in height.

Climate. The climate varies considerably. The northern island has a long winter during which it is buried in snow, while southern Kyushu is almost tropical in summer, but gets some cold winds in winter. Everywhere there is a great difference between summer and winter temperatures, and the Japan Sea coast is much more subject to snow than the Pacific side, which makes the important difference that it gets only one crop, while the lands facing the Pacific, except in the north, raise two. The



CONTRASTS IN SCENERY

Above Mount Fujiyama from Lake Kawaguchi *Below* A cryptomeria avenue and peasants
Photos. Nippon Yusen Kaisha Line; Japan Society

rainfall is everywhere abundant, and in some spots very heavy.

The coast line is heavily indented, forming many wonderful natural harbours; and as the short and rapid rivers cross the narrow sea-board plain they deposit a good deal of detritus. Along the banks the pine-trees raise the surface of the ground, so that the natural tendency is for the river bed to become higher than the plain, and frequently a road or a railway is tunnelled underneath it. At the river-mouth the deposit forms a continuation of the banks, so that the river-mouth, viewed from the hills above, looks like a grove of trees jutting into the sea.



THE JAPAN OF TRADITION

1. The Great Image of Buddha at Nara. 2. Sacred dance at the Kasuga Shrine, Nara. 3. Bridegroom and bride at their wedding feast. 4. Wrestling

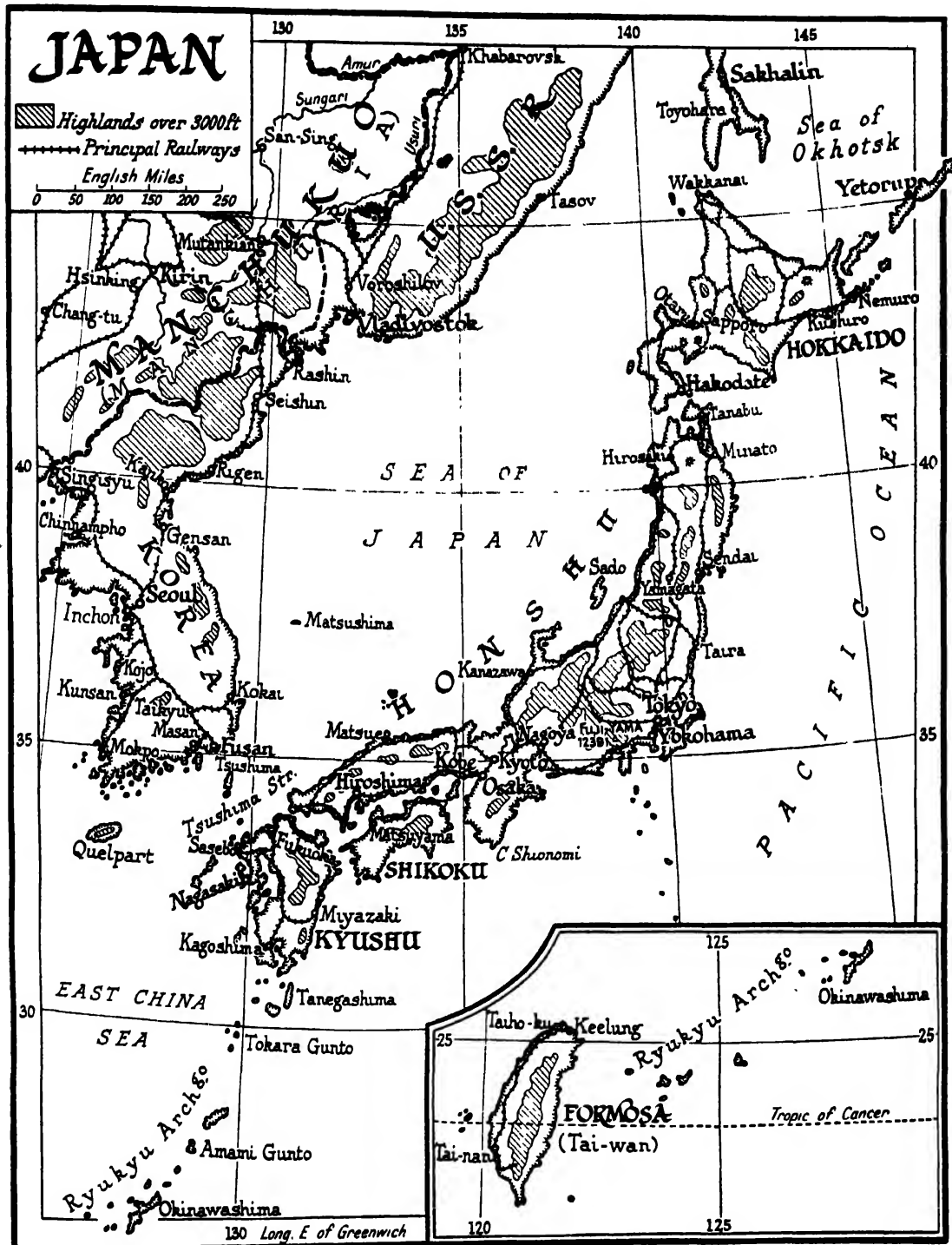
Photos: Nippon Yusen Kaisha Line; Japan Society; Hamburg-America Line

The Rice Lands. These physical features profoundly affect the lives of the people. As their principal food is rice, which grows best in two or three inches of standing water, the fields must all be quite level, which means that in most places they must also be small, a bank one to two feet high separating each rice-plot from the next, where the level changes. This necessitates a simple yet elaborate provision of irrigation; and, when the rainfall is scanty or in excess, fierce disputes arise between farmers upstream and farmers downstream regarding the proportions of water to be impounded or let free.

Land being very valuable, as the population is large, cultivation is carried as far up the valleys as possible, the highest plots being supported by walls of six feet or so in height, and sometimes not much wider than the retaining wall. The irregularity of surface and the necessity of level plots makes small fields the rule; there is not enough space for the handling of elaborate machinery. The bullock-plough is a very crude implement and is always supplemented by the spade. The spade-built rows in perfect parallels following the natural curvature of the field, and the retaining walls, at first long, low and infrequent, but becoming higher, shorter, and more frequent as the valley is climbed, are a feature of the landscape as characteristic as the hills themselves.

Forestry. Forestry is carefully attended to, and bare hillsides are comparatively rare. However steep the acclivity, men climb up, drive in short stakes to hold brushwood and straw as a bed for seedlings, and so the hills are covered. Thus, in places which were bare or have become so through injudicious wood-cutting, the whole character of the scenery is changed, the rainfall is converted from a devastating flood to a gently irrigating flow, and timber and firewood are provided.

The Peasantry and their Crops. Such a country produces a thrifty, hard-working, provident and intelligent peasantry. Though husbandry is on too small a scale for any large employment of machinery, the farmer makes use of chemical fertilizers in enormous quantities, sulphate of ammonia being the chief, and the crops have increased almost as rapidly as the population. A large area is under mulberry, the pollarded trees of which are not allowed to grow more than four or five feet high, as their function is to produce leaves for feeding silkworms. The picking of the leaves and the care of the silkworms give a great deal of work for the farmer's wife and daughters, who sometimes



reel the silk as well, though more often superfluous daughters go to the big filatures where the silk is reeled more scientifically.

Crops like tobacco and poppy are grown under strict supervision and the whole product taken over by the Government. Both are very

exhausting, and require much fertilizer. Where the climate is favourable, the land which has borne a crop of rice in the summer carries barley or wheat in the winter; and increasing attention is paid to fruit and vegetable crops. The giant white radish, *daikon*, is a very

frequent crop, and bundles of radishes one to two feet in length hanging on the trees to dry prior to salting are, in the season, almost a feature of the landscape. In pre-war years the intelligence and enterprise of the farmer was often displayed in the cultivation of a great diversity of fruits, which were formerly unknown or neglected.

All this has not been entirely to the farmer's benefit. The use of fertilizers, once begun,

quantity of Japan's silk—and also of her rayon—is woven in agricultural districts.

Communications. Though Japan is a country of steep mountains, there is generally a strip of land from a few yards to a few miles wide between the hills and the sea, and a comparative scarcity of perpendicular sea-cliffs. Hence the principal railways run round the coasts, and those which strike inland involve much tunnelling. With the speeding-up of life



A JAPANESE TEMPLE GARDEN

Photo: Norddeutscher Lloyd

must be continued, and all diversification of crop demands outlay; and as a consequence agricultural indebtedness is a most serious problem in Japan.

On the other hand, the amenities of life have increased. In a country of many hills and much rain, electricity is generated abundantly, and there are few villages without electric light in every house; and instead of toiling up steep valley-paths with rice to be hulled at a small water-driven mill, the farmer now has a little electric mill in his house which does the work far better. Electricity is also available for working cottage power-looms. A very large

in a mechanical age, there has been a great increase in road-making. Formerly the only good roads were military ones; but since the motor-car and truck arrived, roads have improved and multiplied everywhere. The fact that practically all possible remunerative steam railways had been constructed and that large tracts of country still remained unserved stimulated this road-making, and the old passes, where the road crept as far in among the hills as possible before beginning the climb, are replaced by finely graded and well engineered roads which begin to climb the hill-side at an ample distance from the top. Traversing



SCENES FROM JAPANESE LIFE

1. Young tea-pickers. 2. The Cha-no-yu or tea-ceremony. 3. A scene from "Kwanagicho," a famous Japanese drama. 4. Kago carrier. A Kago is a basket or litter carried on the shoulders of two men. 5. Cutting Fuki-hog (rhubarb). The stems are preserved in sugar as a sweetmeat. 6. "Kenjutsu" (swordsmanship) player at the salute. 7. Chaya-mie or women of Chaya village, a northern suburb of Kyoto. 8. Practising the art of Ike-Bana (the arranging of flowers), a social cult in Japan. 9. Amu, the aborigines of Japan, wearing ceremonial dress. 10. An old ceremonial court dress. 11. A pilgrim to one of the shrines.

these gives a new view of Japan's wonderful scenery.

Shrines and temples on hill-sides and in villages are also important features which help to give the Japanese scene its character.

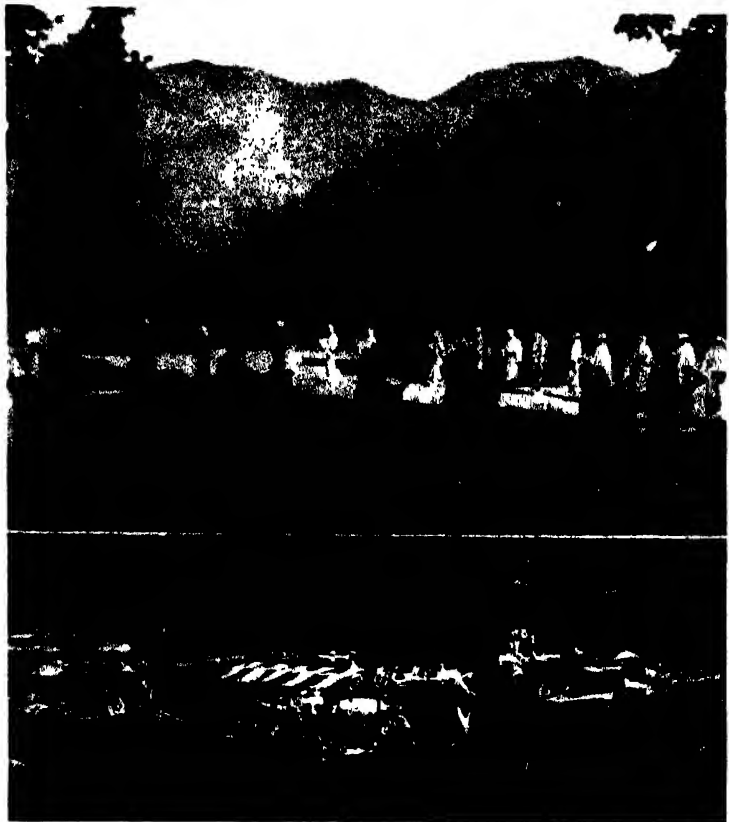
Fishing. The irregular indented coast of Japan provides magnificent scenery, especially on the side facing the Continent, and everywhere the coast is inhabited by a hardy race of fishermen, whose labour brings to Japan the fish which is second only to rice in importance as an article of diet. They ply their trade in all its varieties—longshore and deep-sea, and they go to the coasts of Korea, China, and Kamchatka, to the Malay Archipelago, the north Australian coast, and even whaling to the Antarctic.

Curiously, diving is a woman's job, whether for the culture-pearls which have become an important article of commerce and controversy, or for *awabi* and *sazae* (giant limpets and whelks, both much esteemed).

Lack of Grazing Land. One of the handicaps of rural life in Japan is the lack of grazing. Only in the Hokkaido (the northern island) which is a different type of country, is there any extensive pasture, that in other parts being very scanty. The steep hills, which might be expected to offer grazing to unlimited sheep and cattle, grow only bamboo grass, the long tough roots of which may have been designed by a beneficent Providence for the preservation of the hill-side, but whose foliage is so harsh and tough that even a goat cannot tackle it.

In such a country as this there were places so remote as to be almost inaccessible. The increase of roads and transit facilities diminishes this inaccessibility, but up to a decade ago the taking of a census would produce romantic newspaper stories of "lost" villages which were on no map and were innocent of the joys of taxpaying and conscription.

Effects of Westernization. When Japan decided to abandon her isolation and throw in her lot, economically speaking, with the Western world, she quickly began to find that



FOLK LORE.

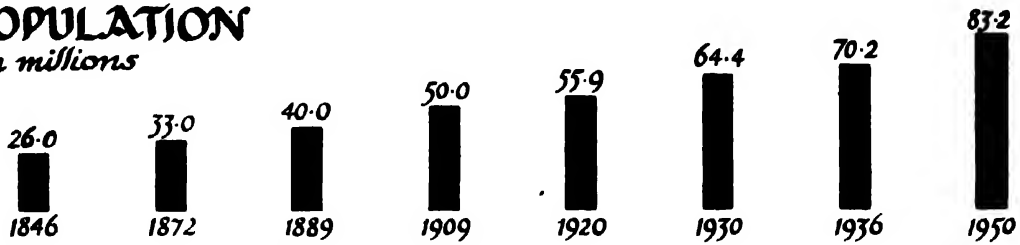
Above: Folk dancers of Kuse. Below: The festival of the Kurumazaki Shrine at Kyoto
Photos: Nippon Yusen Kaisha Line

she suffered from a shortage of nature's gifts. The offer of Manchester's products at a price with which Japan could not compete caused her to conceive first an ambition to break into the textile trade. Up to this time Japan had grown most of the cotton that she required for her coarse cloths; but it was a curious thing that the successful adoption of cotton spinning and weaving by machinery ended the cultivation of cotton in Japan. The fibre could be imported from India cheaper, and in an abundance which it was impossible to produce at home. On the other hand, disease in the silk-worms of France and Italy created a demand for raw silk, and the Japanese, who had previously imported a large proportion of their raw silk from China, displayed a greater adaptability than the Chinese in working to European specifications—though they were far from giving complete satisfaction. When the manufacture of silk was taken up in the United States of America, silk production became Japan's greatest industry and was for many years her financial mainstay, being far more

JAPAN

POPULATION

in millions



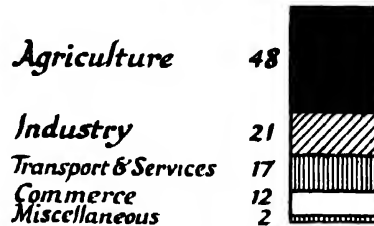
Population of Principal Towns 1950

in thousands

Tokyo	6,278
Osaka	1,956
Kyoto	1,102
Nagoya	1,031
Yokohama	951
Kobe	765

Occupational Distribution

in percentages of total employed



PRODUCTION

in metric tons

in thousands of metric tons

Mineral & Heavy Industry

in millions of metric tons

GOLD

COPPER

COAL

PIG IRON

STEEL



Agriculture & Textiles

in millions of quintals

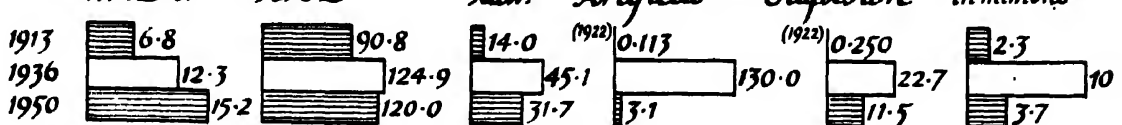
WHEAT

RICE

Raw. SILK

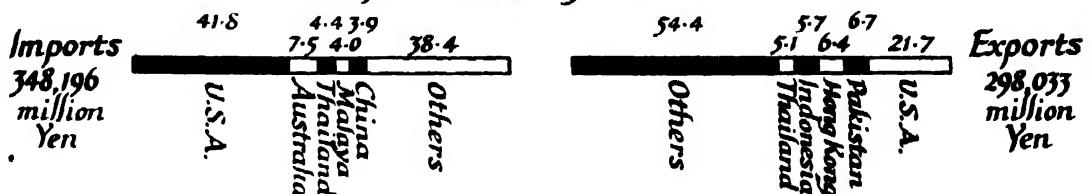
Artificial Staple Fibre

Cotton Spindles

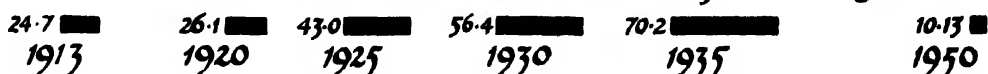


FOREIGN TRADE 1950 by Countries

in percentages of Totals



SHIPPING Vessels Entered, in millions of Tons Register





GATE OF THE ITUKUSIMA SHRINE
One of the scenic trio of Japan
Photo: Hamburg-Amerika Line

valuable than the export of cotton, which, large as it became, remained the superfluous production from an imported staple.

Minerals and Heavy Industry. After entering the world market Japan started to develop iron and steel industries. Coal-fields in Kyushu provided the fuel but there was a shortage of good iron ore, although low-grade ore and iron-sand were abundant. The Government set up huge works near the coal mines and these led the way in heavy industry. The first World War made the Government's works very remunerative and a number of private steelworks were set up.

Japan has supplies of other minerals which were uneconomical to exploit but which were exploited during the first War when there was a market for them and afterwards when she wanted them herself, to build her war-machine. Antimony and zinc output were greatly increased and she became the world's second largest producer of copper. The chemical industry also grew to importance, Japan having good supplies of salt and sulphur. Machine making industries of all sorts were widespread and manufacturers had a complete disregard for patents. Any machine that they liked was copied in minute detail and then put into production. Armaments were a big item of the output of all industries during the war years.

Reconstruction. The 1939-45 War brought destruction and disorganization to Japanese industry and the Allies were faced with a difficult problem of reconstruction. In 1946 a Five-Year plan was started. This dealt first with the re-distribution of the population,

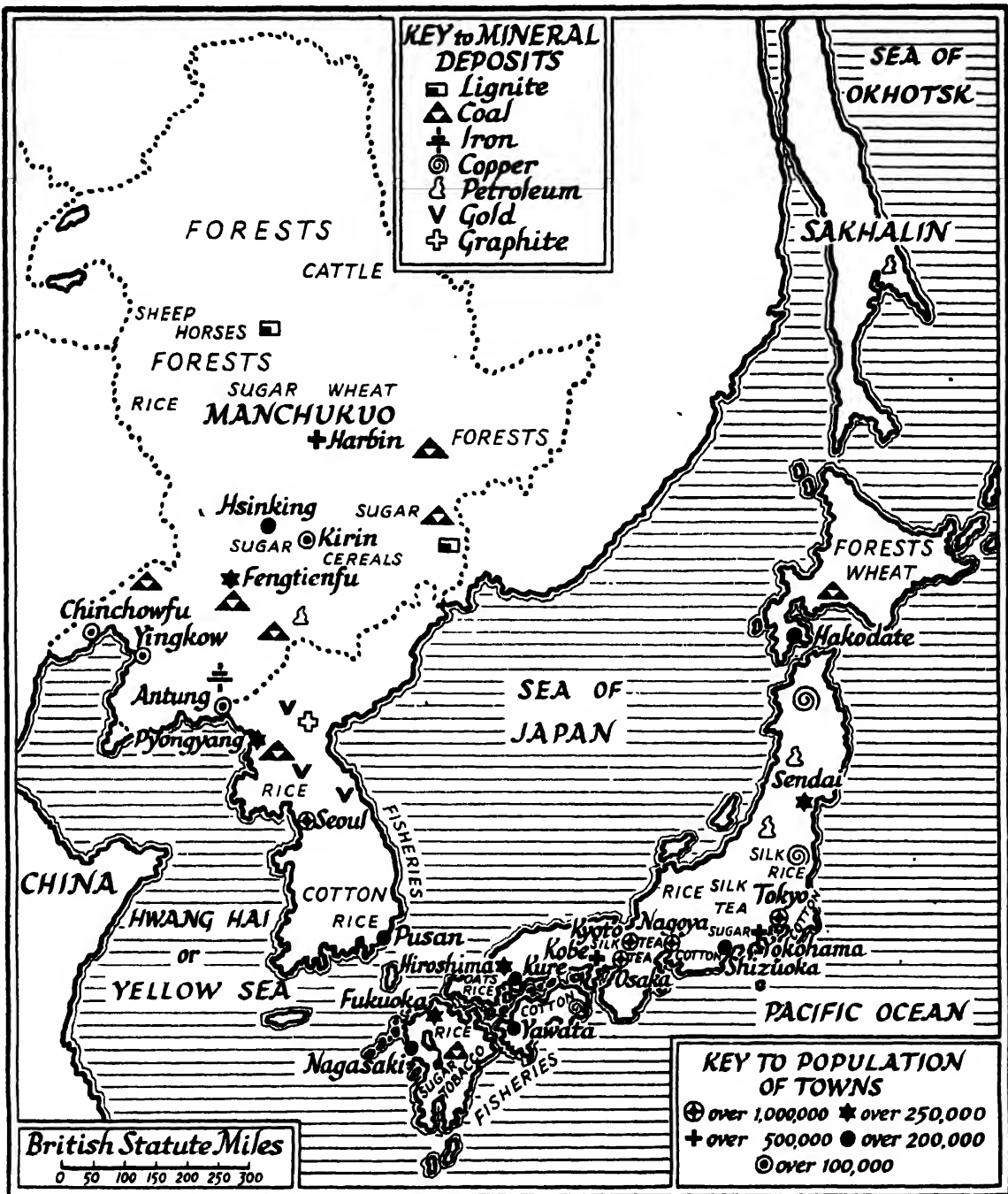
which it was estimated would be 80,000,000 in 1950 and which for long had been a problem of Japanese governments, even with an Empire to overflow into. Of the working population of 38,000,000, it was planned that 16,500,000 should be engaged in agriculture, 600,000 in fishery and 6,300,000 in industry (a reduction of 3,000,000 in 1939 figures); 7,100,000 were to be employed in building and repair work. Manufacturing plants in large cities were reduced in size and developed in other areas, heavy machinery and chemical industry was concentrated in harbour areas to help the export and import trades. A whaling expedition with two factory ships, was also fitted out and sent to the Antarctic. Armaments of every type were forbidden.

These plans were very largely fulfilled in practice, despite the fact that the total population turned out to be some 3,000,000 more than the estimate when a census came to be taken in 1950, and by 1952 industrial production was running at something like four times that



THE CULTURE PEARL INDUSTRY
Oyster reservoirs in Gokasho Bay, near Toba. After keeping the oysters in the wooden reservoirs shown for three years, irritating substances are inserted into the fish. They are then returned to the reservoirs for another seven years, at the end of which period the pearls are extracted

Photo: Wide World



of 1946 and rapidly approaching its war-time peak.

The Towns. Though the railways, which date from the last quarter of the nineteenth century, have, in Japan, as everywhere else, led to large increases in the urban populations, Japan was, from very long past, a country of populous cities. It used to be observed, however, that, apart from some special feature,

such as the Emperor's Palace in Kyoto and the Shogun's in Yedo (now Tokyo), the cities were rather lacking in character. Even up to twenty-five years ago when one looked down on a Japanese city from a neighbouring hill, there were very few landmarks to note—simply a sea of grey roofs, without even a chimney to diversify them—for factories were rare and the domestic fire was a charcoal brazier. To-day



RURAL LIFE

1. Intake dam and water power plant at Ina Gorge. 2. In a bamboo forest. 3. Rice planting. 4. Harvest time in the eastern plain.
5. Gathering tea leaves. 6. Cormorant-fishing on the River Nagara. 7. A typical homestead. 8. A salt farm by the Inland Sea of Seto.

Photos: Japanese Consulate General; Nippon Yusen Kaisha Line; Japan Society; Thos. Cook & Son, Ltd.; Norddeutscher Lloyd

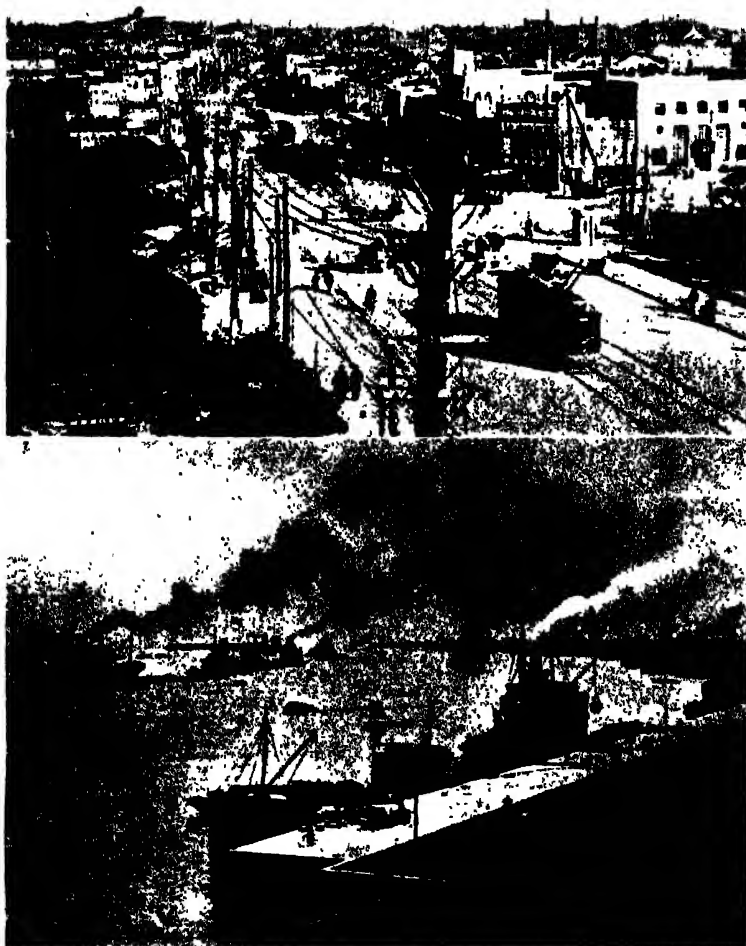
there is a great change, though there are still some populous cities which lack monstrous buildings and factory chimneys. Similarly, the streets lack distinction. Unoriginal imitation is as common in Japan as elsewhere, and a very prosperous business will cause a number of competitors to spring up in the same street, thus tending to form a distinctive quarter for this business. But this does not go very far, its most marked display being in regard to theatres and other places of entertainment, which tend to form a special street in each city. As traffic increases in volume and speed, there is a gradual response in increased width of roadways, but narrow roads without side walks are still the rule; the roads are lined by open drains (which are covered with flagstones in front of shops), and sewerage is unknown—which, perhaps, is as well in a land so subject

to earthquakes. On the other hand, the Japanese authorities have been quick to realize the advantages of a good water supply, and most towns supply excellent pipe-water to their inhabitants. The tradition of days when it was dangerous to drink water persists, however, and there is generally a kettle perched above a charcoal firebox in the middle of the living room, ready to make tea at any moment—a pale liquid drunk without milk or sugar.

The two most populous cities in Japan, Tokyo (formerly called Yedo) and Osaka, had their positions determined in the first place by the proximity of extensive plains whence they drew their supplies of rice, and by conveniences for water-carriage and shipping. But the shipping was of a small kind, and when Japan abandoned her isolation just after the middle of the last century, new ports with deeper water were

created about twenty miles from the old ones—Yokohama serving Tokyo and Kobe serving Osaka. Both quickly grew into cities of over 500,000 inhabitants. They became the chief *entrepôts* of foreign trade and the shipbuilding industry, and included the principal foreign colonies.

Tokyo. The principal feature of the imperial capital is the Emperor's Palace, a group of old-fashioned Japanese buildings in extensive grounds, with cyclopean walls facing the surrounding moat. Not far off is the more modern Akasaka Palace, a sort of miniature Versailles. Surrounding a large part of the Palace are the principal Government offices, the Imperial Diet, and the Embassies of the foreign Powers, extending a little comparative quiet and dignity before the roar of the surrounding city begins. Two-thirds of Tokyo was burnt down after the great earthquake of 1st September, 1923, so [practically the whole city was then rebuilt. Improvements in lay-out were made, the main arteries being greatly widened, and the collapse of some of the big buildings was not taken as a warning against



TOKYO

Above: Kudan Hill looking towards Kanda. Below: Shipping in the Shibaura Harbour

Photos: Japanese Consulate General; Fox



YOKOHAMA

The Nippon Bashi Bridge with modern office buildings in the background

Photo: Fox

such new-fangled structures, but only as a proof that they must be built strongly. In the course of ten years the capital was rebuilt, with many handsome structures, seldom displaying any characteristics distinctively Japanese, but many of the 400 bridges which cross the numerous streams and canals are structures of splendid lines and good architecture. Within the vast city limits of Tokyo are many large areas of land forming the grounds or gardens of wealthy people, and on the outskirts are the gardens commemorating the Emperor Meiji and embracing the Meiji Shrine, the Meiji Stadium, Young Men's Hall, and other buildings. Near the water-side, on the other hand, dwellings are crowded close together and populated by a very poor proletariat.

YOKOHAMA. The larger industries have created towns almost continuously from Tokyo to Yokohama. The earthquake altered the geography of Yokohama very considerably: the town was utterly destroyed, and when it came to rebuilding, considerations of land ownership and transport developed new areas and left some of the busiest parts of the old port unoccupied.

OSAKA. At the head of an almost landlocked bay nearly 400 square miles in extent, the town is built mainly on the silt of the Yodogawa, and

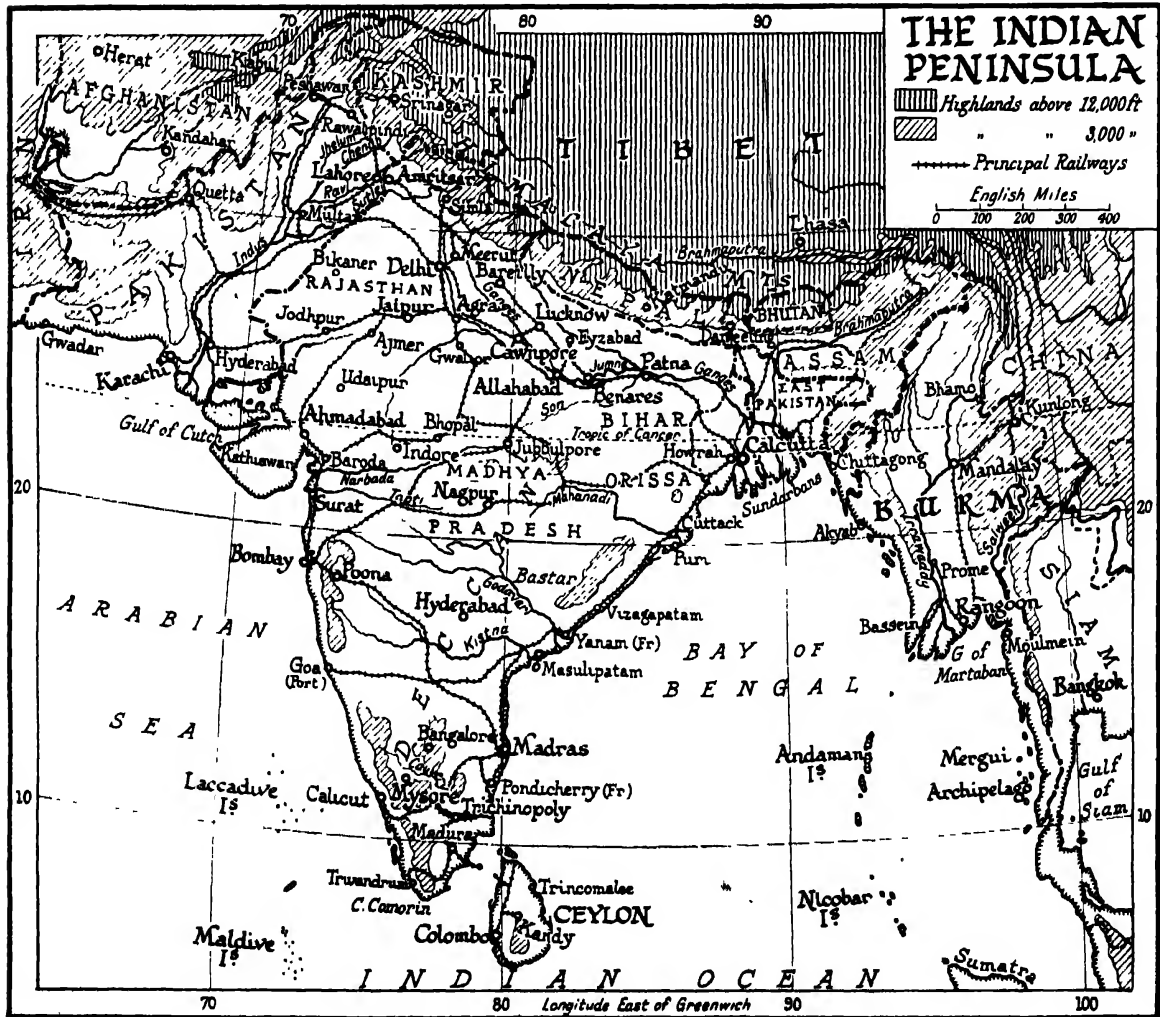
is intersected by numerous canals. It is an immense, sprawling city, with many large and up-to-date factories.

Dominating the city is the tower of the old Castle, restored before the second World War, and among notable buildings is Tennoji, one of the oldest and most spacious of Buddhist temples. The port, which has been much improved and extended, did a vast trade with Japanese and Chinese ports, though the larger ocean-going steamers preferred the facilities offered by Kobe, which handled more foreign trade than any other port in Japan.

KYOTO. The most picturesque city in Japan, Kyoto was for a thousand years the capital. It is still a centre for art and artistic handicrafts. The principal manufacture is porcelain, though much of that which is decorated in Kyoto is baked elsewhere. The former capital is a great show place with its Imperial and Shogunal Palaces, and with many picturesque temples.

NAGASAKI. A town famous for its historical associations. Its principal industry was ship-building, the Mitsubishi dockyard making both battleships and ocean liners. The city was virtually destroyed in 1945 by the second atomic bomb. Two square miles were totally obliterated and 35,000 people were killed.

THE INDIAN PENINSULA



India and Pakistan

INDIA and Pakistan can be divided naturally into three main regions, the Himalaya, the great plains, and the triangular tableland to the south, protected on both sides by the sea. Each of these has its own characteristic geological structure, climate, and topography,

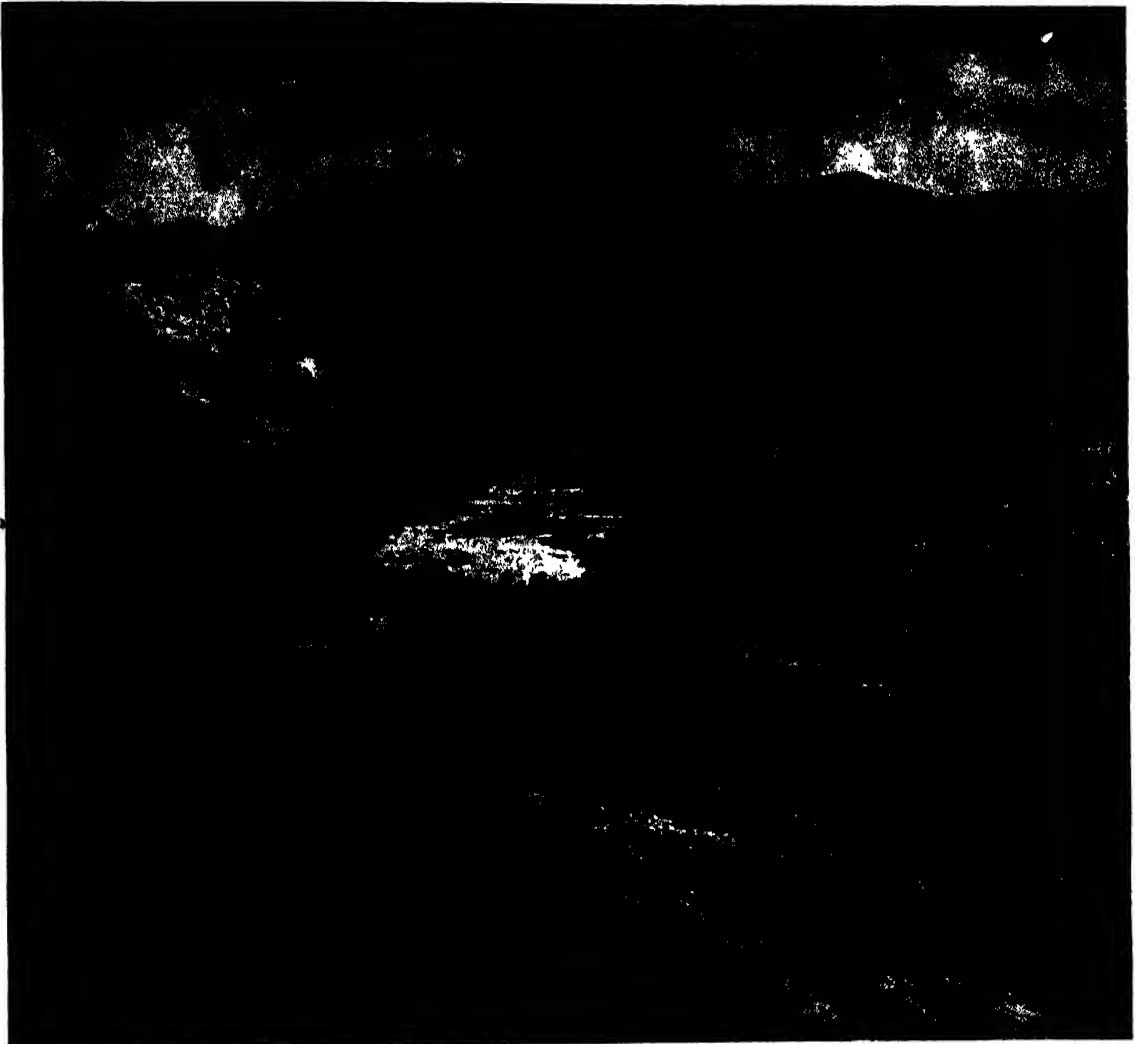
controlling its scenery, natural resources, and ethnic development.

In a total area of 1,504,000 square miles, the size of continental Europe without Russia, there exists a population of 433,000,000, about one-fifth of that of the world. Immigrants for

the most part of Dravidian and Aryan stocks, they have intermingled to varying degrees with their predecessors, who still live, however, in large numbers in the forested highlands of the interior. The almost unbroken mountain barriers encircling the Indian peninsula from

rural life, and from its uncertainties has arisen the fatalistic philosophy of the peasantry.

The Partition. The partition of India in August, 1947, into the two states of India and Pakistan with the end of British rule was one of the most significant events in Indian history.



A FERTILE VALLEY IN WOODED HILLS
The Chel Valley, showing Ambik Tea Estate
Photo: Indian Trade Commissioner

the Arabian Sea to the Bay of Bengal have isolated it from the rest of Asia for ages, and enabled its peoples to develop their own distinctive civilization. The majority of the population is engaged in agriculture and on its success depends not only its own well-being, but the greater part of the trade of the country, both internal and external. The monsoon rainfall is the predominant interest in Indian

India proclaimed itself a Republic in 1950; it includes many old princely states, or groups of them, such as Rajasthan, Hyderabad, and Mysore; Kashmir is disputed with Pakistan. Pakistan, which became a Republic three years later, comprises West Punjab, East Bengal, Sind, Baluchistan and the N.W. Frontier Province. The total area of Pakistan is 365,000 square miles, the western part being separated



A TEMPLE AT FORT GWALIOR
Photo, Indian Trade Commissioner

from the eastern by over 1000 miles. Its population numbers 75,842,000 of whom about 86 per cent are Moslems.

The primary cause of the partition of India was, of course, the widely different points of view held by the Moslem minority and the Hindus, who make up 65.7 per cent of the total population of India. Partition was finally achieved after many years of negotiation and difficulties according to an agreed plan between the British Government and the two main Indian political parties, the Indian National Congress and the All-India Muslim League.

The mistakes of Congress governments in the Provinces before the war greatly helped the Muslim League to strengthen its case for partition. The "Quit India" movement started by Mahatma Gandhi in 1942 gave the Muslim League a new slogan: "Divide and quit."

Our survey, however, deals with the area as an economic geographical whole and the term "India" and "Indian" will be used in general to denote the whole of the Indian peninsula.

The Peninsular Region. Stretching down the western coast in almost inaccessible forest-

clad cliffs, for 900 miles from a point north of Bombay to Cape Comorin, are the Western Ghats, rising steeply from a narrow coastal plain, sometimes approaching within twenty miles of the sea and seldom more than fifty miles from it. For about 300 miles they are built of horizontal lava flows with flat-topped summits, reaching a height of 4540 feet at Mahabaleshwar. Beyond this the lavas are replaced by gneissic ranges, broken by the Palghat depression between the Nilgiri Hills and the Anamalais, and continued in the Palnis and the Cardamom Hills of the far south.

The Eastern Ghats of the opposite coast are either the scarped edges of the interior plateaux, or short isolated ridges, carved from the surface of the ancient tableland. They lie farther inland from the sea, especially to the south, where the broad Tamil lowland intervenes. Between these two mountain systems is a high plateau, rising generally from 1000 to 3000 feet above the sea, the average level decreasing from south to north with minor hill ranges rising above it in places. In the triangle so formed are the large portions of the states of Bombay and Madras and the great states of Hyderabad and Mysore. In the extreme south-west are the coastal states of Cochin and Travancore, now united.

The Western Ghats form the watershed between the Arabian Sea and the Bay of Bengal. South of the Narbada and Tapti Rivers, flowing westward into the former, all the drainage of the other streams, the Godavari, Kistna, Penner and Cauvery, even from hill



A GIGANTIC IMAGE OF MYSORE
The sacred Bull on Chamunda Mountain
Photo: Italian Lines



THE FESTIVAL OF RATH JATRA

Part of the procession at the annual festival at Puri, in Orissa, when the images are taken from the temple of Jagannath and, after being mounted on huge cars, are pulled through the streets by pilgrims

Photo: Keystone

tops within sight of the western ocean, moves eastward across the Peninsula and empties into the Bay of Bengal.

Similar lava flows to those of the Western Ghats occupy the greater part of Bombay and Hyderabad, spreading also into the Central Provinces, Central India, and Gujarat, across an area of over 250,000 square miles, and so forming the biggest and thickest blanket of volcanic rocks on the Earth's surface. On the Deccan, the high inland tract between the Narbada and the Kistna Rivers, are wide undulating plains divided by flat-topped, terraced hills, sometimes crowned with the fortresses of bygone Mahratta chiefs. Large trees are scarce, and from November to March during the dry months, the country displays a dull uniformity, changed when the rains come into scenes of pleasing verdure. Characteristic of this region are fertile, black soils, largely devoted to cotton and millet, the food grain of the populace. The Deccan is the home of the Mahrattas, a race of Hindu warriors now turned cultivators, though the states of Baroda, Gwalior, and Indore still remain in their hands.

Hyderabad, largest of the former Indian prin-

icipalities, is nearly equal to Great Britain in size, with twice the inhabitants of Austria, mainly Telugu and Marathi speaking Hindus ruled by a wealthy Moslem dynasty. Its plateau averages about 1300 feet, with ridges of higher ground separating the waters of the Godavari and Kistna. It, too, possesses black, cotton soils in the west and alluvial flats in the valleys, but, elsewhere, both man and beast are dependent on the vagaries of an uncertain rainfall. From its coal-fields of Singareni, Sasti, and Tandur, the railways and factories of southern India derive part of their fuel requirements.

The monsoon breaking on the Western Ghats accounts for the high, seasonal rainfall and the hot, humid climate of the Konkan and Malabar coasts of Bombay and Western Madras, respectively. The southern part of this belt is intersected by lagoons and palm-fringed backwaters. The lowlands yield rice and coconut products; the piedmont ginger, pepper, cinnamon, cardamoms and cloves; the forests teak and ebony; the higher slopes tea, coffee, and rubber. Travancore and Cochin are so densely populated that rice has

increasingly to be supplemented by tapioca on poorer land. Cottage industries have been carried on here and in southern India generally for centuries—cotton and silk weaving, coir making, and wood, ivory and brass carving. Sea fishing off the coasts provides food for local consumption and dried products for export.

Round Cape Comorin is the surf-ridden Coromandel Coast, backed by the southern part of the Tamil plain over most of the districts of Tinneveli, Madura, Tanjore, and Trichinopoly. Except the Mahratta and Oriya areas, the whole south is peopled by Dravidians speaking Telugu and Tamil, Malayalam and Kanarese; of these, the first in the north-east and centre, the second in the south-east, overshadow the rest.

South-Eastern States. This is the land where Hinduism and the caste system have become most complex. It is famous for its magnificent temples and for its artistic products. Madras, the capital, a city of open spaces and slums, with a large artificial harbour, lies roughly half-way between the mouths of the Cauvery and Kistna. In the deltaic lands, rice, oil seeds and pulses, cotton, sugar cane and tobacco thrive. Farther inland, outside irrigated areas and riparian plains, the barrier of the Western Ghats chiefly determines the rainfall; in the west abundant, farther east it becomes scanty, resulting in poor crops, scrubby jungles and innumerable "tanks." The superfluous population used to emigrate to the tea gardens of Ceylon, the rice fields of Burma, and the rubber plantations of Malaya, but the last two are now closed. In the Nilgiri Hills, which rise to over 8000 feet, the rounded turf-clad downs provide some of the best hill stations in India, as well as grazing grounds for the Todas and other primitive tribes.

Surrounded by Madras, on a plateau averaging about 2000 feet, stands Mysore, somewhat larger than the Republic of Ireland, with thrice the population. More hilly and afforested on the west than on the east, it is a homogeneous Hindu state. Irrigation has enabled much formerly barren land now to produce rice, sugar, and millets. The use of hydro-electric power is widespread, particularly on the Kolar Gold Field from which about £80,000,000 of gold have already been won. Railways, iron and steel works, sugar mills, soap, porcelain, and silk factories are owned and operated by the Government. Coffee and sandalwood are exported.

North of the Coromandel Coast are the deltas of the Kistna and Godavari, and then the northern Circars of Madras are followed by the Mahanadi Delta in the state of Orissa. This stretches for 300 miles along the shores of the Bay of Bengal as a long, cultivated plain, varying from a few miles to sixty miles in width, and joining with the Gangetic alluvium of Bengal on the north. Towards the west it becomes more irregular, before giving way to the tangle of jungle-covered hills in the backward interior. The population of the plain is almost entirely Hindu (Oriya), to whom the whole land is sacred, and Puri, one of the larger towns, is supported by a pilgrim traffic from the whole of India to the renowned Jagannath temple. The fisheries of this coast are important, but agriculture suffers from periodic floods and cyclones.

North of the Orissa hills and geologically of the same nature, though politically forming part of Bihar province, lies Chota Nagpur, another deeply dissected tableland, with forested hills rising to 3000 feet, undulating uplands and valleys inhabited mainly by pre-Aryan aboriginals. Agriculturally of little value, its primitive tribes usually hunters or wandering cultivators, it is compensated by immense mineral wealth. From its iron ore fields the Indian iron and steel industry is fed, its copper ores are mined and smelted on a large scale, its mica reaches the electrical engineering workshops of the whole world, its coal-fields in the Damodar Valley account for 90 per cent of India's annual total of 30,000,000 tons. The fortunate location of coal, iron and manganese ores, limestone and refractory minerals in adjoining areas have assisted in the phenomenal evolution of the heavy industries of India, just as the proximity of the coal-fields to Calcutta has helped to develop the export trade.

The "Central Provinces." Chota Nagpur broadens out to the south-west into the plateau system of the Central Provinces, now called Madhya Pradesh, the backbone of the whole region being the Satpura Range and its continuations. On an Archean platform, its central portion, the Mahadeo Hills, are made of lava flows and sandstones rising to 4500 feet. Eastward they consist entirely of flat volcanic rocks, terminating in the Amarkantak plateau (2500 feet). This is a water parting of primary concern for about it rise the head streams of the Nerbada, flowing west; the Mahanadi, flowing east; the Son, a member of the Gangetic system



SCENES OF NATIVE LIFE

1. Watering farmlands at Rampur. 2. A 'rickshaw at Simla. 3. A fisherman with the gourd on which he floats with his clothing wrapped round his head. 4. A sugar cane plantation. 5. Fisher folk of Lucknow. 6. Market day. 7. Natives of a Toda village

Photos: Indian Trade Commissioner; Indian State Railways; Sport and General; Fox

flowing north, and the Wainganga, a tributary of the Godavari, flowing south.

These and similar isolated ranges, both east and west, guarded by fever-haunted approaches offering in their uninviting jungles no prospects of reward to the adventurer, remain to this day the abodes of the animistic tribes, Khonds, Gonds, Kols, Bhils, and others, driven into the fastnesses in the course of centuries by the

Nagpur, Marathi is the principal tongue; elsewhere Hindi prevails.

The soils vary greatly in character, from the black kinds of the lavas to light, sandy types on the crystalline rocks. Cotton is widely grown, and in addition to a modern milling industry, the village hand looms produce home-spun cloth here as elsewhere. Rice and lentils, millets and gram, maize and linseed are among



CAPE COMORIN

Photo: Indian Trade Commissioner

relentless pressure of Dravidian, Aryan, and minor racial movements. There is thus an ethnic parting here between north and south, between Hindustan and the Deccan (in the broad sense of the term) as well as a geographical one.

Between a quarter and a third of Madhya Pradesh is still forested; this is mostly around the margins, once occupied by many petty states. North of the Satpuras is the rock-cut trough of the Narbada, with its fertile alluvial plain, 200 miles long and twelve to thirty-five miles wide; south of them trending west, south and east, are tributaries of the Tapti, Godavari and Mahanadi, respectively; in the upper Mahanadi valley is the rich irrigated basin of Chhattisgarh. To the south-west lies the cotton-growing area of Berar. Throughout Berar and the division named after the capital,

the principal crops, while the mining of manganese ores and coal are the leading mineral industries.

The Satpuras have much imposing scenery, mighty sandstone cliffs and columnar basaltic precipices rising from the gloomy gorges. From their heights towards the north, the forests of the foothills are seen to pass imperceptibly into park-like grazing grounds bordering the green fields of the Narbada plain, while in the hazy distance the Vindhyan range is dimly outlined.

The Malwa Plateau. The old "Central India States" are now divided into Madhya Bharat in the west and Vindhya Pradesh in the east; only Moslem-ruled Bhopal remains apart. The controlling feature north of the Narbada Valley is the Vindhyan range and its extension the Kaimur Hills. These are but the southern

scarps of a great plateau comprising Indore, Bhopal, the states of Bundelkhand, and others. The first two lie on the Malwa Plateau, a terraced igneous region rising from 1500 to 2500 feet. Gwalior, farther north, the largest of the group, is scattered in several portions, some on the rich, black soils of the same plateau; others at lower elevations in densely populated valleys of the Jumna.

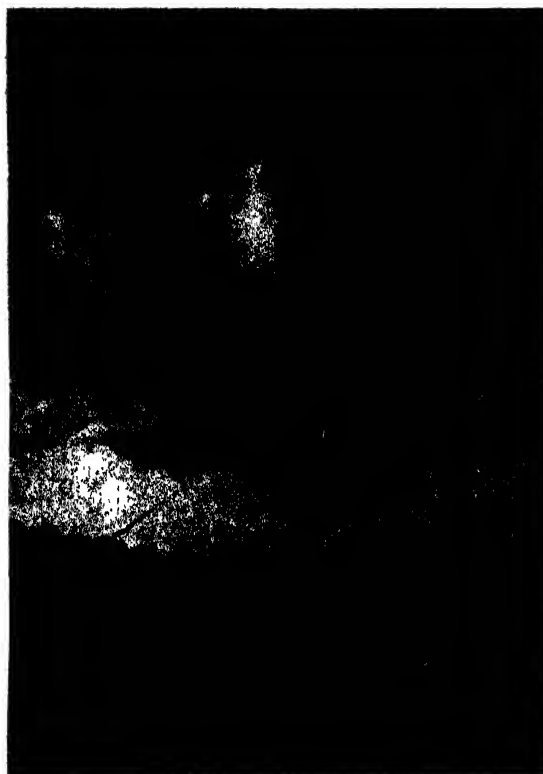
Agriculturally they all partake of the character of the surrounding areas; those of Madhya Bharat (of which Indore and Gwalior are most important) are progressive states, but Vindhya Pradesh is still very backward. Baroda, farther west still, shares the features of northern Bombay and Gujarat lying in the alluvial plain joining the mouths of the Tapi and Narbada with the recent deposits of the Indus Valley.

Near Bulsar in the Surat district of Bombay the Western Ghats terminate, but high ground still extends northward between the plains of Kandesh and Surat. Between the Tapi and the Narbada, which reach the sea at Surat and Broach, respectively, after emerging from rocky gorges below their upper plains, the western termination of the Satpuras, known locally as the Rajpipla Hills, sinks gradually into the coastal plain. The shallow Gulf of Cambay here separates the Kathiawar Peninsula from the mainland, while beyond it, again almost divided by an arm of the sea, is Cutch. Kathiawar is undulating, with its hills subsiding into plains bounded on the shores by ridges of coastal deposits and sandhills. Though the rainfall is usually light, the soils are of fair quality and agriculture prospers. A widely used building stone is quarried in the Barda Hills and salt is manufactured near Port Okha. The 222 former states are now united in Saurashtra.

The Rann of Cutch. Cutch is a hilly region with large tracts of low ground, but owing to lack of rain its sterility is very marked. In ordinary dry seasons the plains are deserts scoured by sandstorms, but even a little rain causes grass to spring up and yield forage for the herds upon which the inhabitants mainly depend for their subsistence. The extraordinary Rann of Cutch, separating it from Sind, is a silted marine gulf now turned into a marshy plain, 200 miles from east to west and, in places, almost 100 miles from north to south. A very small depression would convert Kathiawar into an island, and Cutch becomes an island when the gales of the south-west monsoon raise the sea and dam back the water brought

into the Rann at that time by various rivers. More normally, however, its surface of dark, sunburnt silt, blistered by saline incrustations, is varied only by mirages or widespread tracts of dazzling white salt.

Gujarat, on the mainland, is a wealthy and important region of Bombay state, and Ahmadabad, in the centre of its prosperous lowlands, is a great cotton milling centre. The Gujaratis are known throughout India as successful bankers, merchants and traders, and they and



THE WOODED BANKS OF PERIYAR LAKE
Typical scenery in the lakeland of Travancore State
Photo: Indian Trade Commissioner

the Parsis of Bombay have, with European co-operation, raised that city to its eminent position in Indian finance and culture. With its 2,840,000 inhabitants it rivals Calcutta and is the second city in the country. Indian capitalistic enterprise directed from Bombay is responsible for the hydro-electric companies supplying power to the city, for the great iron and steel works which employ about 50,000 workmen at Jamshedpur in Bihar, for the majority of the textile mills in Bombay and the Central Provinces, for oil mills and soap factories in southern India, for cement companies, and for air mail services.

Between Bombay and the Punjab lie the states of Rajasthan, divided unequally by the north-easterly trending Aravallis, the oldest folded mountain system of the Peninsula. It is a primeval system in the penultimate stages of decay, and therefore exhibits striking differences of aspect through its course of 400 miles. At the southern end is the granite massif of



TRANSPORT ON THE INDUS

A view of the Indus showing the air-filled goatskins which are used by the natives for crossing the river. Ordinary sticks are used as rudder and oar combined

Photo: Planet

Guru Sikar, rising sheer from the plains on the east and west to 5650 feet. But most of the southern portion is the steep edge of a plateau facing south-west, upwards of 1500 feet high, sloping gently to the south-east, with narrow, discontinuous ridges above it. Farther north more elevation is lost, until between Jodhpur and Jaipur is a broad saddle under 1600 feet; beyond this the last spurs of the range reach out to Delhi. In the saddle lies the salt Lake Sambhar.

The Indian Desert. To the north-west of the Aravallis lies the Indian desert, the Thar, in Bikaner, Jodhpur, and Jaisalmer, a vast, sandy plain broken only by dunes and rocky knolls. Barren though this country appears, wherever water is obtainable from wells, or, as occasionally happens, there is a favourable rainfall, crops of wheat and millet are raised and grasses quickly appear as pasturage for the herds. The desert supports a population accustomed to make the most of a hard environment and to store the takings of good years for use in leaner times.

The states on the other side of the Aravallis are in more favoured situations, though here too the rainfall is still exceedingly precarious. The plains, as a rule, slope from about 1000 feet above sea-level, to an average of 600 feet towards the tributaries of the Jumna. The meandering valleys are dry, except for a few hours after heavy rain, but an underground flow is a boon for well irrigation. Rajasthan includes many famous states and beautiful capitals, Udaipur and Jaipur, Alwar, Kotha, Bundi, Karauli and Tonk, where colourful medievalism still survives in spite of modernity, where the age-long traditions of loyalty, courage and courtesy of a great fighting race still receive full expression.

The Great Plains. Fringing the Indian desert on the west are the plains of the Indus in Sind and the southern Punjab. From Karachi, the seaport of Sind, to Lahore, the capital of the Punjab, and thence, via Delhi, to Calcutta on the opposite coast, a distance of nearly 2000 miles, stretches an unbroken plain, averaging 200 miles in width, the product of the alluvial deposits of the Indus, Ganges and their tributaries. The water parting between these two major systems lies between Saharanpur and Ambala, 100 miles north of Delhi, at a height of 900 feet above sea-level at Calcutta, 900 miles away. Moreover, the alluvium continues, though in a narrower band, up the Valley of the Brahmaputra, unbroken, for a farther 500 miles. The immense plains of these three rivers, the richest and most populous parts of India, cover some 300,000 square miles and include the greater part of Assam, Bengal, Bihar, the United Provinces (Uttar Pradesh), the Punjab and Sind.

The Sind-Rajasthan region has the highest temperatures and lowest rainfalls in India and Sind, small in size (50,000 square miles) and population (about 4,900,000), would be a desert but for the Indus, the valley of which is separated on the west from Baluchistan by the Khirthar Range, generally between 4000 and 5000 feet in height. Nearly all of the population is Mohammedan and in appearance and civilization the country is more akin to Arabia or Iraq than to India. The completion of the Lloyd Barrage Canal System in 1932, one of the largest of its kind in existence, assured future prosperity and, moreover, a large acreage, principally under wheat and cotton, is being irrigated. Karachi, the sea and air port of Sind, is also the gateway to the north-west, to Baluchistan and Afghanistan.

The Punjab takes its name from the five tributaries of the Indus, the Sutlej, Beas, Ravi, Chenab and Jhelum which, rising in the Himalaya, are fingered out from north-east to south-west across its plains before joining the main stream. For much of its course the Indus separates the Punjab and the North-West Frontier Province. In area slightly larger

as the Rajasthan desert is approached. The surplus waters of the rivers, however, fed from the Himalayan snows, have been diverted by canals; so vast areas, once useless, are now thriving. There are two distinct seasons and two harvests, yielding a wide range of produce, but the area is most noted for its production of wheat and cotton.



PESHAWAR
A street scene
Photo: Fox

than Great Britain, the Punjab had a population of over 28,400,000, more than half Mohammedans, the remainder Hindus and Sikhs. Ninety per cent of the total live in villages, for it is a land of peasant proprietors, with larger holdings than usual, and some large landlords. With partition most of the Canal Colonies went to Pakistan, and the Sikhs have migrated to East Punjab (India). The north-eastern districts reach into the Himalaya. The northern sub-montane tracts enjoy a good rainfall, but southward precipitation soon diminishes

Across the north-west corner curves the Salt Range, in a façade of brightly coloured cliffs and bluffs above the plains. It is the crescentic fringe of the Potwar plateau behind, a high level plain, about 1000 feet above the main alluvium and covering some 7000 square miles. Salt is mined on a large scale in the Range, and the Potwar possesses two producing oilfields.

Over the low watershed in the valley of the Ganges are the United Provinces of Agra and Oudh, now Uttar Pradesh, about equal in size and population to the British Isles. The

sturdy peasantry, overwhelmingly Hindu, formerly tenants of a wealthy, landed aristocracy, dwells in multitudinous villages scattered over the plains, tilling the soil as their ancestors did, with few interests outside the procession of the seasons and the condition of the crops and herds. Two crops are often grown: wheat,

and religious interest: Delhi, the old Imperial Capital; Agra, its one-time rival; Lucknow with its palaces, capital of Uttar Pradesh; Allahabad, a great market and rail centre; Mirzapur, noted for its brass work, shellac and carpets; Benares, the holy city of the Hindus; Cawnpore, the industrial city, with cotton and



THE SUNDAY MARKET AT DARJEELING

Photo: Indian Trade Commissioner

barley and pulses in the winter; millet, rice and Indian corn in the summer, but oil seeds, cotton and sugar cane are also important.

The Cities of the Plain. The alluvial plains lie at two levels, the lower sometimes subject to flooding, while along the foothills of the Himalaya is the forested "tarai" belt. The whole north-western part of the Province stretches across the Himalaya of Kumaun and Garhwal and marches thus with the frontier of Tibet, amongst some of the most superb scenery in the world. Although so predominantly agricultural, no part of the Indian Peninsula has a better selection of cities of historical

woollen mills, tanneries and leather works, flour mills and sugar factories, employing 48,000 factory hands.

The alluvial plain continues into Bihar, already described as far as its uplands are concerned. The population is again mainly Hindu and has much in common with that of western Bengal. Rice now becomes the staple commodity, the capital Patna giving its name to certain choice varieties, though the name now has a wider significance. The cultivation of indigo and poppy, at one time widespread, is now of little consequence, its place taken to some extent by sugar cane and tobacco.

Deltas of the Ganges and Brahmaputra.

In Bengal the deltaic region of the Ganges and Brahmaputra is entered, extending over about 90,000 square miles, much of it liable to flooding, with its base on the coast, from the Hooghly to Chittagong. Its southern portion is interlaced by a labyrinth of tidal rivers and creeks, the courses of which, constantly changing, enter the sea through the Sunderbans, a succession of mud flats, swamps, and mangrove forest. The population, of some 67,000,000, less than half of them Hindus, is essentially a village one, though the middle classes, endowed with remarkable intellectual powers, absorb Western education with avidity and enter the clerical and professional ranks in vast numbers. Outside Greater Calcutta, with a population of about 5,000,000, only 4 per cent of the population is urban and the remainder mainly occupied in agricultural pursuits.

Two-thirds of the cultivated area is under rice, and in the centre and east jute, a world monopoly, is grown on land fertilized annually by inundation from the rivers and so able to support this exhausting crop year after year without manuring.

Assam covers 54,000 square miles; it is mainly in the valley of the Brahmaputra and on the Shillong Plateau, carrying the attractive capital at a height of 5000 feet. The Assam valley itself is a gigantic strath, approximately 400 miles long by fifty wide, a great part of which is seasonally flooded, with belts of uninhabitable marshes on each side. A small part of southern Assam has gone to East Pakistan, which includes about three-fifths of Bengal, but not Hooghlyside or Calcutta; its capital is Dacca and its port Chittagong.

A great deal of Assam consists of frontier tracts, along the base of the Himalaya or in the ranges separating it from Burma, malarious, rain-sodden, leech-ridden jungles, the home of many semi-savage, indigenous tribes, Nagas and Lushais, Mishmis and Abors, and others. These are the "backward peoples" of the politician, picturesque but squalid, and inclined to regard the strong hand of the Government as a passing though irksome inconvenience. The tea industry is the mainstay of Assam, but there are also well developed oil and some coal fields. Cut off from Burma on the south by the almost impenetrable mountains of the Arakan Yoma and its continuations, Assam is hemmed

in to the north and east by the Himalaya, on which an article will be found on page 780.

North-West Frontier Province. Hazara, which is the most westerly of the districts of the North-West Frontier Province, is the only one on the eastern side of the Indus. The other five districts, Peshawar, Mardan, Kohat, Bannu and Dera Ismail Khan, are based on the western bank of the Indus for 250 miles. Altogether they cover 14,300 square miles and have a population of 3,29,000, almost entirely Mohammedan. Beyond them lie the tribal tracts and certain States estimated to contain a further 25,000 square miles and 2,660,000 people. Beyond these again is Afghanistan. Here, amongst rugged and inhospitable mountains, live the fanatical and quarrelsome Pathan tribesmen, Wazirs, Mahsuds, Afridis, Shinwaris, Mohmands and so on, constantly at feud amongst themselves and only held in control by the ceaseless watch and ward of the frontier authorities.

This province is under the administration of the Republic of Pakistan and the area is one of the important constituents of that Republic. Beyond the settled Districts the tribesman follows his own inclinations unhampered by the police or the Penal Code. The roads, however, are sacred and the camel caravans bringing their merchandise from Kabul, Bukhara or Samarkand traverse the road from the Khyber Pass to the bazaars of Peshawar without hindrance.

South of the North-West Frontier Province, bordering Afghanistan on the north, reaching to the Arabian sea on the south, to Iran (Persia) on the west, and separated from the Indus Valley by the high Sulaiman and Khirthar ranges, is the parched, mountainous country of Baluchistan. Considerably larger than the British Isles, its total population numbers only 1,174,000, and it possesses but two towns of any size—Quetta, the capital and military centre, and Sibi. The Moslem inhabitants are chiefly illiterate nomads, engaged mostly in raising camels and sheep. Two-thirds of the region is not under direct Pakistani administration, it yields no surplus revenue, and its occupation is maintained entirely for strategic reasons. Although some of the valleys are open and fertile, most of the region consists of desolate mountains and dry plateau-basins, of stony deserts and occasional oases.

Trade and Industry

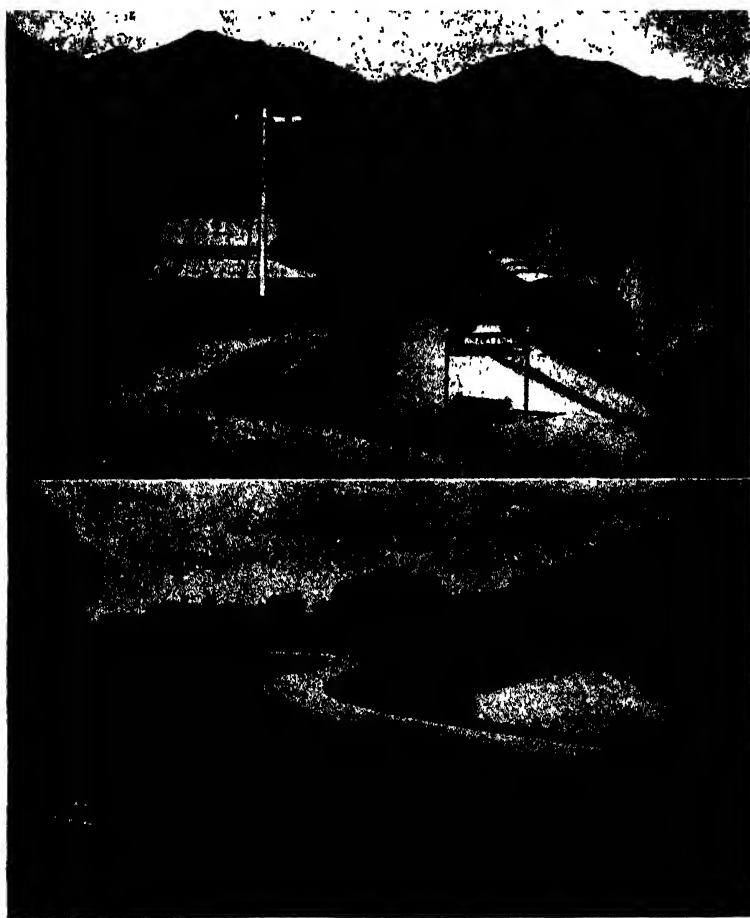
INDIA has traded with the West from time immemorial. Eight hundred years before Christ, we hear of the "ships of Tarshish" of Solomon's ally, Hiram, King of Tyre, which sailed from Ezion Geber (now Suez), to Ophir (Sopara near Bombay) for "ivory, apes and peacocks." The Romans, like the various European nations in the Middle Ages, consumed incredible quantities of Indian pepper, which was used for flavouring food and drink, and for preserving meat. When the Venetians monopolized this eastern trade, other European merchants were led to find a new sea route to India round the Cape of Good Hope, and a fresh era in Indian trade was opened when Vasco da Gama and his companions arrived at Calicut on the Malabar coast from Portugal in 1498. The English were late comers in the

field. A party of merchants with a letter of introduction from Queen Elizabeth visited the Mogul Emperor, Akbar, in 1583; in 1600 the East India Company was formed, and a trading factory opened at Surat. It was subsequently moved to Bombay, which was acquired from the Portuguese in 1661. During the eighteenth century, England waged a number of successful wars with the French and the various Indian powers, which resulted in the gradual conquest of the country. In 1858, after the Mutiny, India passed from the hands of the Company to the Crown, and in 1945 sovereignty was returned to the Indians.

These political changes brought about important economic results. Under the Mogul Emperors, agriculture was the chief occupation, though the Imperial Court, and to a lesser extent the local governors, encouraged luxury trades, such as inlaying, painting, jewelry, carpet-making, and the weaving and embroidery of silk. A great deal of building and stone carving was done, and a number of people found occupation in the court and the army. The chief exports to Europe were various kinds of cotton cloth, silk, indigo, saltpetre, sugar, pepper and spices. The cloth was, of course, hand-woven, and bought by middlemen on behalf of the factors. Against these, the English merchants imported specie, woollen goods, mirrors, glass, lead, tin, swordblades and 'toys' of all sorts—that is to say, jewelry and knick-knacks for the use of the Indian princes and nobles. European travellers were often impressed by the seeming prosperity of India in the seventeenth century, but wealth was in the hands of the few.

Industrial Development.

The industrial development of India may be said to have begun with Lord Dalhousie (1848–1856), the last and greatest of the Governors-General under the East India Company.



TRANSPORT

Above: The station at Shelabagh, near the Baluchistan border. Below: A new asphalt road between Poona and Bangalore, in the Deccan

Photos: Indian Trade Commissioner

Already the way had been paved in 1843 by the establishment of a regular steamship service between Europe and India via Suez, which gradually replaced the Cape route. Twenty-six years later, the Suez Canal was opened. The Industrial Revolution greatly intensified the world's need for tropical agricultural products, and India was in a unique position to supply it. At the same time, India, with her rapidly expanding population, was anxious to take manufactured goods in exchange. Dalhousie foresaw this, and paved the way by starting the first Indian railway, constructing metalled roads and canals for transport, and introducing a regular postal service and the electric telegraph. The two World Wars gave a great stimulus to Indian industries, owing to the decrease in foreign imports, and the demand for raw materials. The natural resources of the country were developed and communications were modernized and improved.

Growth of Cash Crops.

India is an agricultural country, and over 70 per cent of the population still get their living, directly or indirectly, from the soil. The chief effect of the Industrial Revolution on the country has been the substitution of cash crops—cotton, for example, jute and oil-seeds—for food crops. India's oldest, and leading, industry is cotton. Its importance lies in the fact that cotton clothing is worn by practically all the 433,000,000 inhabitants of India, and by people in many other parts of the world. Cotton grows on a small, bushy plant which flourishes in the dark loamy soil known as "black cotton soil" in various parts of the Indian Peninsula, particularly Gujarat, and the western Deccan; it is also grown in the Canal Colonies of the Punjab.

About 10,000,000 acres are under cotton. After it has flowered, pods are formed, which burst when ripe and contain a white, fluffy,



INDUSTRY

Above: The hydro-electric plant at the head of the Uhl River. Below: The works of the Indian Cement Company at Porbandar

Photos: Indian Trade Commissioner

fibrous substance known as cotton-wool. The pods are gathered mostly by women labourers, and taken to mills; here they undergo a process known as "ginning," whereby the cotton is cleansed of seeds and impurities. It is then compressed into bales, and sent to the factories or shipped to Bombay or Karachi for export. The city of Bombay owes many of its big buildings to the cotton trade. Formerly the chief source



NATIVE AGRICULTURE

Above: A contrast between the old and new method of winnowing wheat. Below: A contrast between the old and new methods of threshing

Photos: Indian Trade Commissioner

of the world's raw cotton was the Southern States of America, where it was grown on plantations by Negro slaves. But during the Civil War of 1861-5, the Southern ports were blockaded, and Bombay for a time had a virtual monopoly, from which it made enormous profits.

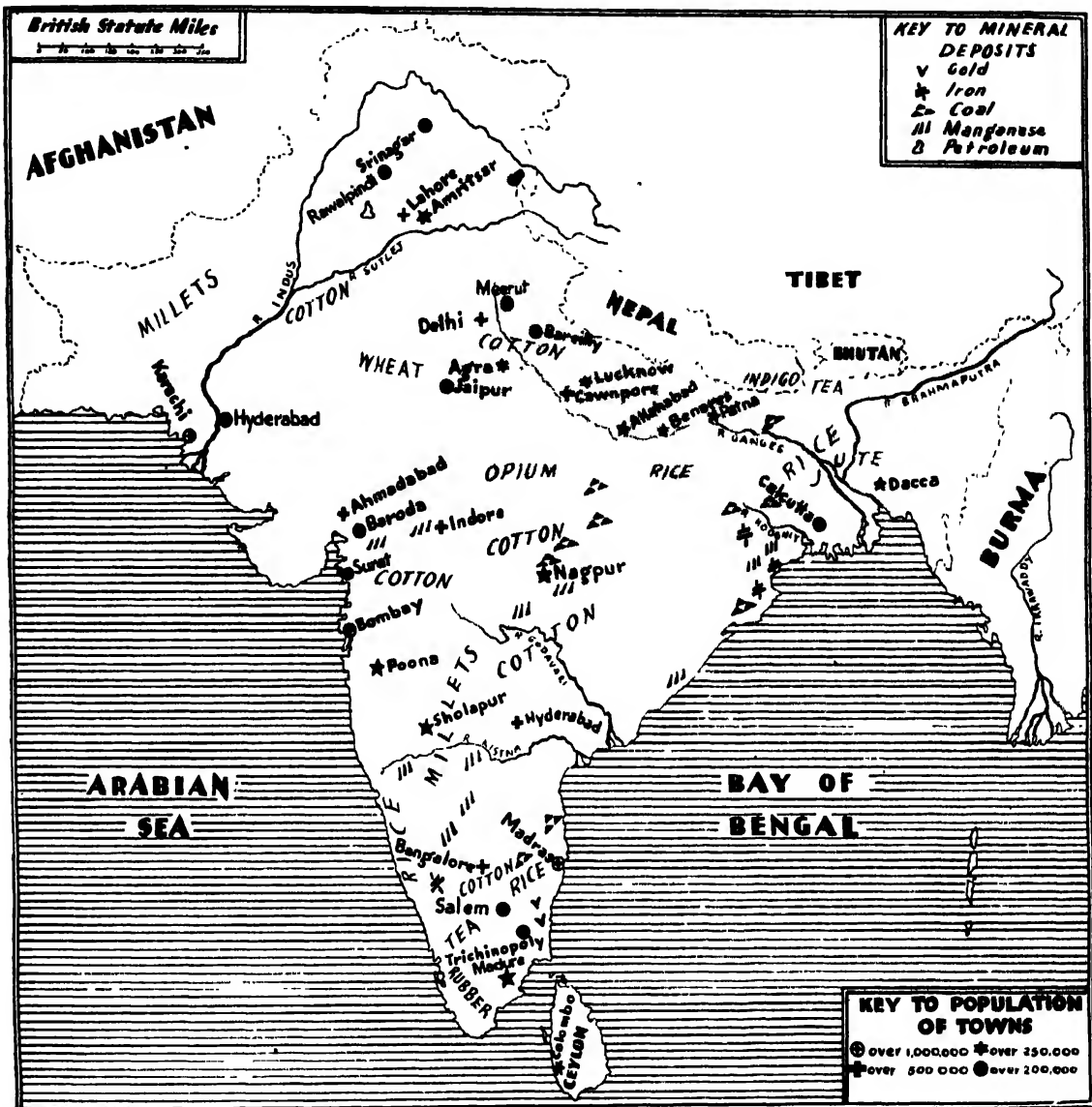
The chief articles turned out by the mills are piece-goods (textile fabrics woven in recognized lengths), women's *saris*, turbans and cloths. The total number of cotton spindles in India in 1951 was 10,849,000, as compared with Pakistan's 315,000, and her total production of yarn was 1,304,000,000 lb. Cotton spinning and weaving mills employ over 600,000 workers. Most of them are in Bombay, though Ahmadabad, Broach, Sholapur, Nagpur and Madras are important centres.

The chief disability from which Indian cotton suffers is the fact that most of it is of the "short staple" variety, and this is only useful for making the coarse homespun used in India; it is not suitable for the Lancashire mills. Efforts, however, are being made by the Indian agricultural departments to introduce better kinds of seed, and thus to improve its quality. Japan, with its cheap yarn and piece-goods, was the most serious competitor to the Indian cotton industry before the war, and Japanese competition is now fast being revived.

Jute is to Calcutta what cotton is to Bombay. It is manufactured from a tall plant which grows almost entirely in the alluvial soil of the Ganges delta. The stems are cut down and steeped in water till they rot, after which the fibre is extracted. It is used for making sacking, cordage, and a coarse cloth known as hessian. During the World Wars, jute was used in enormous quantities for sandbags. India enjoys a monopoly of jute; some of it is manufactured in mills on the banks of the Hooghly, though considerable quantities are exported to Dundee. Dundee is to the jute-trade what Lancashire is to cotton.

Cotton and jute are the main industries employing factory labour, but there are many others. At Cawnpore are woollen mills and tanneries; in the latter, all sorts of leather goods, including saddles, harness, and equipment for the army, are turned out in large quantities. There are also paper, glass and cement mills in various parts of the country.

Labour Problems at the Factories. By 1945 there were 14,677 factories in various parts of India, employing over 3,000,000 hands. These have given rise to labour problems of considerable complexity. The Indian millhand is a peasant, temporarily driven to take work in the towns by agricultural depression or the prospect of higher wages. His heart remains in the country, and to it he returns at the earliest opportunity. Many of the immigrants leave



their families behind them, and the disparity between males and females is very striking. The villager, when he migrates to the town, brings with him his rural standards of living and sanitation, and the results are usually deplorable. They are aggravated by bad housing conditions, which are a legacy of the *laissez faire* policy of the nineteenth century.

In Bombay, the workers are accommodated in huge blocks of tenements known as Chawls; it is reliably estimated that about 80 per cent of the tenements in Bombay can be classified as consisting of one room, and the average number of persons occupying this room can be reckoned to be over four. The state of the *bustis* or hovels inhabited by the jute workers in Calcutta is equally bad. Hours of work, judged by

European standards, are excessive, and wages are low. Labour conditions have, however, greatly improved in recent years. Factory laws have been passed, and careful municipal control of new buildings is now the rule.

Other Important Crops. Other important industries deserve a mention. Among the cash-crops not grown for food, opium and indigo, which once flourished, are now dwindling. Opium is extracted from the juice of the poppy. It is a Government monopoly, and its manufacture is restricted to the State factory at Ghazipur. It is taken medicinally, and is used in the preparation of drugs such as morphine. The export of opium to China is forbidden, and most of the former poppy fields in Malwa are now under cotton. Indigo, once a

flourishing trade in Bihar, has been gradually supplanted by aniline dyes.

Coffee, which is still grown in the Nilgiri Hills, has suffered heavily from Brazilian competition. Sugar cane and tobacco are extensively cultivated, but in both cases the products are mostly of a coarse quality, and are manufactured principally for home consumption; the sugar industry grew enormously between the Wars, however, and India is now normally self-sufficient.

The coconut grows freely on the Malabar coast, and a fibre, used for making coconut matting and cordage, is obtained from the husks; the dried kernel, or nut, known commercially as copra, is exported, and used for the extraction of a valuable oil and for making sweetmeats. India at one time produced considerable quantities of silk, and attempts were being made by the British Government to revive sericulture in Assam, Mysore, and Kashmir. Oil seeds, especially ground-nuts, linseed and sesamum, are among the leading cash-crops. These are grown almost entirely for export; an oil is extracted from them which is used in the manufacture of margarine and soap.

Rice is the most important single food, and about 30 per cent of the total sown area is under rice. It is chiefly produced in the regions which enjoy a heavy rainfall, Bihar, Bengal, Madras and the coastline of Bombay. Before it is shipped, it has to be husked and milled; and rice-milling is the chief industry of the small country towns in these areas. Next comes wheat, grown mainly in the irrigated areas of West Punjab and Sind (Pakistan). Many varieties of millet are grown for food, and indeed there are perhaps as many eaters of millets as of rice. But yields per acre of most crops are low, and the population is so great that many people are often underfed.

Tea Planting. One of the most flourishing industries, which owes its existence almost entirely to the Europeans, is tea. England is the greatest tea-drinking country in the world; the population consumes about nine and a half pounds of tea per head per annum, and the bulk of it comes from India and Ceylon. Tea originally reached Europe from China, but in 1834 an indigenous tea-plant was discovered in Assam, and in 1840, tea began to be shipped from India to London. To-day 600,000,000 lb. are produced annually, most being exported from Calcutta and Chittagong.

The tea-plant grows on sloping hillsides

with a good rainfall and an equable climate. Tea is chiefly cultivated at Darjeeling in Bengal, in Assam, in the Nilgiri Hills of southern India, and in Ceylon. The bushes are planted in regular rows, and in order to make plucking easier, they are pruned very low. The plucking is mostly done by women and children; the two terminal leaves and the bud are picked and taken to the factory, where they are rolled and dried, and packed in tinfoil wrappers.

Tea is grown on large estates or plantations which used to be always managed by English planters. The labourers, or "coolies," are recruited on indenture in southern India for a number of years. The whole family usually goes, and they are provided with quarters or "lines" on the estates; the coolies' quarters are usually very good, and are provided with hospitals and elementary schools. There is, of course, much work to be done besides plucking, drying and packing the tea. New areas have to be cleared and planted, the bushes constantly pruned and weeded, and the paths kept in order. About 1,000,000 workers, of whom fully 50 per cent are women, are employed in the tea industry.

The Indian forests are another valuable source of revenue. Wherever there is a good rainfall, on the Malabar coast, the Himalayan foothills, the Burma-Assam hills, India has magnificent forests. Teak, from the Western Ghats, is famous for its strength and rot-resisting properties, and is used for a variety of purposes, including ship-building, wood for railway sleepers, and furniture. The manufacture of paper-pulp from bamboo is an industry which has recently been developed and has great potentialities, and among the by-products may be mentioned materials for tanning, wood-alcohol, shellac and turpentine.

Mineral Wealth. In the old days, India produced gold, diamonds and other precious stones. From the once-famous diamond mines of Golconda came the diamond known as the Koh-i-Nur, or Mountain of Light, which now adorns the British Crown; sapphires and rubies are dug in Kashmir. The gold mines at Kolar in Mysore produce about 180,000 ounces of gold annually. Most of the minerals are, however, found in an area about 300 miles west of Calcutta.

The coal is rather poor and unevenly distributed, the principal mines being in Bengal and Bihar (the Gondwana coal-fields). Manganese, used in the manufacture of steel, mica,



PEOPLES OF THE INDIAN PENINSULA

1. Peasants of the north-eastern districts
2. Itinerant merchant
3. Nautch girl from Delhi
4. Water carrier
5. Girl millhand of Bombay
6. Open-air market vendors
7. Potter
8. Beggar
9. Tea picker of Assam

INDIA		PAKISTAN	
AREA in thousands of sq. miles 1,139		AREA in thousands of sq. miles 365	
POPULATION 1951 in millions 356.9		POPULATION 1951 in millions 75.8	
DENSITY persons per sq. mile 313.4		DENSITY persons per sq. mile 207.9	
PRODUCTION 1950 in millions of tons		PRODUCTION 1950 in millions of tons	
Rice 20.4		Rice 8.2	
Wheat 6.6		Wheat 4.0	
Sugar Cane 5.5		Sugar Cane 1.0	
Tea 0.278		Tea 0.024	
Barley 2.2		Barley 0.157	
Coal 32.8		Coal (Negligible by comparison)	
Cotton 0.508		Cotton 0.222	
Jute 0.589		Jute 0.595	
LIVESTOCK 1950 in millions		LIVESTOCK 1950 in millions	
Cattle 136.7		Cattle 24.3	
Sheep 37.7		Sheep 6.1	
Goats 46.3		Goats 10.1	
Buffaloes 40.7		Buffaloes 5.6	
x The bars are employed here to show the comparison between India and Pakistan production of each item alone, and not as comparisons between items			
FOREIGN TRADE 1950 in percentages of totals		FOREIGN TRADE 1950 in percentages of totals	
Imports Exports		Imports Sea borne Exports	
Total 5882 million Rupees 6031 million Rupees		Total 1364 million Rupees 1957 million Rupees	
20.9 U.K. 22.0		27.2 U.K. 15.4	
19.7 U.S.A. 17.9		8.7 U.S.A. 7.7	
5.7 Australia 5.0		13.8 Japan 16.6	
3.2 Burma 3.6		10.6 India 2.1	
1.2 Pakistan 3.9		5.4 China 4.4	
2.7 Singapore 5.1		5.3 Italy 8.1	
46.6 Others 42.5		1.4 France 8.3	
		27.6 Others 37.4	
N.B. The Pakistani rupee is not at par with the Indian rupee. 1 Pakistani rupee = 1.625 Indian rupees (approx.) in 1950			
Land borne trade with India Imports: 150 million rupees Exports: 800 million rupees			

very valuable for the electrical industry, and saltpetre are found in various parts of the country. Salt used to be a Government monopoly under the British, and is manufactured from sea-water near Bombay and on the coast. There are also salt pans and salt mines in Rajasthan and the Punjab.

The most interesting development of modern times, however, has been the formation of the

Ghats above Bombay, where the monsoon is very heavy. The water is collected in huge artificial lakes, and supplies electric energy for the mills, trams, and railways and lighting of Bombay and its suburbs. So far most development has been in the south, especially on the Cauvery River; but very large schemes are in progress on the Sutlej, the Damodar, etc. Only a very small fraction of India's



KOTAH

A picturesque town of Rajasthan

Photo: Fox

Tata Iron and Steel Company in 1911, by Mr. Jamsredji Tata, a member of the great Parsi family to whose foresight and commercial acumen India is so deeply indebted. At Sakchi in Orissa are blast furnaces and plant turning out nearly 1,000,000 tons of steel a year, and furnishing employment for 70,000 workers; they are housed in the model city of Jamshedpur, which has excellent quarters, roads, water supply, schools, and hospitals. Economically it is a great advantage for India to turn out her own steel girders, rails, fishplates, and wagons. Nor is this the only debt that India owes to the Tatas.

Hydro-electric Works. The uneven distribution of Indian coal, is, of course, a great handicap to industry. In 1915, the Tatas opened important hydro-electric works on the

potential has as yet been used, and hydro-electric power will continue to play an ever-increasing part in the development of Indian industry.

Indigenous Arts and Crafts. No account of Indian industries would be complete without a mention of the indigenous arts and crafts. India is a land of craftsmen, and many of these have survived, especially in the Indian States, in spite of mass production. India was the first country to perfect handweaving, and Dacca muslins were once famous all over the world for their exquisite fineness. These, alas, are no more, but shawls of a fine texture are still woven from goats' hair in Kashmir, and exquisite silk brocades are made in Benares and Ahmadabad. Woollen pile carpets come from Amritsar in the Punjab. Cottons or chintzes, with traditional designs printed

on them in vegetable dyes, are produced at Masulipatam and elsewhere. Pottery is another Indian handicraft of immemorial antiquity, and brilliantly glazed tiles adorn the mosques in the Punjab and Sind. Carving in stone, ivory and wood, casting in metal, and the art of the goldsmith and jeweller have reached a high state of perfection.

The Caste System. Indian craftsmanship is intimately bound up with the caste system, which in this respect resembles the guilds of medieval Europe. Each craft is practised by a different caste, and their trade-secrets are handed down from father to son. Various towns have earned a reputation for particular productions, Dacca for muslin, Lucknow for silver-work, Delhi for ivory carving, and so forth.

Before the partition attempts had been made to revive the Indian industries. The Government of India started a rural improvement scheme, with the object of finding more employment for the villagers, and Gandhi opened a crusade in favour of the *charka* or spinning-wheel, and the use of *khaddar* or homespun cloth. About one-quarter of the cotton cloth consumed in India is woven on handlooms.

How Britain Left the Country. India is a country in a state of economic transition. On the one side, we still have a large rural area, with its indigenous industries and craftsmen; on the other, the growth of the great industrial towns, with their mills and factories and urban population. Ever since the middle of the last century, there has been a gradual and continuous growth of organized industries of the Western type. In no other way could the resources of the country have been adapted to meet the needs of the vastly increased population. On the whole, too, the

standard of living was raised in a number of ways.

Thus the railway and the motor-bus brought many peasants into touch with the outside world. Great irrigation works made agriculture more secure against the variability of the rainfall, and turned large areas from almost desert into a thriving countryside. Comforts and conveniences such as bicycles, kerosene lamps, matches, tea, and cheap medicines found their way in increasing quantities into the villages. Government was on the whole more just and even-handed than under even the best of earlier rulers. Large numbers of the middle classes received a University education and found employment in Government service, in the law, and in medicine; and increasingly India was beginning to turn out her own scientists and technicians.

But serious evils remained. Education was only just beginning to reach down to the villager, who needed it most as some protection against the extortions of moneylenders and petty officials. There was much debt in the villages, and in some areas much exploitation by landlords. Even in the towns hospital services were hardly adequate to cope with the disease fostered by appalling over-crowding in insanitary conditions.

Above all, agriculture remained backward, and this was by no means entirely the fault of the peasant, who usually had not money or land enough for improved methods. As a result the pressure of the population on food supply was constantly increasing, and millions of Indians were constantly underfed. Yet much had been done by the British rule; and at the very least the foundations of communications and administration had been laid, foundations on which Indians and Pakistanis are now free to build their own modern nations.

The Cities of India and Pakistan

DELHI. (Population with New Delhi and suburbs, 1,193,697, an increase of nearly 200 per cent in ten years.) Delhi is situated on the west bank of the Jumna River which runs here north to south. A low, narrow range of the Aravalli Hills branches off a few miles south of the city and skirts its western boundaries on its way northward to meet the river. This range, famous for the British stand during the Indian Mutiny in 1857, is known as the Ridge.

In the ruins of the many cities of Delhi, which cover the few square miles of this last spur of the Aravalli ranges, one finds an epitome of India's recorded history. Traditionally the royal cities of Delhi go back to the days of Mahabharata (one of India's Epics); but the first historical ruin in Delhi dates from the fourth century A.D. This stretch of the country lies at the southern end of the Punjab corridor, protected by the Rajasthan desert on the west, and guarding the roads to the

fertile Ganges Valley leading, before railways were invented, to the only suitable entrance to the Deccan in the south. Its strategic position justifies its choice as a seat of government of the many bygone kingdoms and empires in India.

There are ruins, which contain some of the finest specimens of pre-Moghul Mohammedan architecture, of more than seven cities of Delhi of the Mohammedan period in India (from 1192 A.D.), strewn over an area of about forty-five square miles south of the last city built by the Emperor Shah Jahan between 1638-1650. This Delhi, known as Shahjahanabad, after its builder, extends over two miles along the Jumna, and was surrounded by a high stone wall three and a quarter miles long. There were then fourteen gateways to the city, of which about four remain. Inside this walled city the Emperor built the Fort, with its many beautiful halls, palaces, battlement and moat, and outside the Fort the Jami Masjid, perhaps the largest place of worship in the world. The buildings were almost replicas, but in a grander style, of similar structures in the Agra Fort and represent the peak period of Moghul architecture.

In 1803, Lord Lake defeated the Mahrattas and took possession of the city. From that time the East India Company governed the city in the name of the Moghul Emperor, whom they had re-installed, until the Mutiny in 1857 was quelled. In the following year the government of India was transferred to the Crown, and Delhi ceased to be India's capital. For administrative purposes the city and surrounding districts were attached to the province of the Punjab.

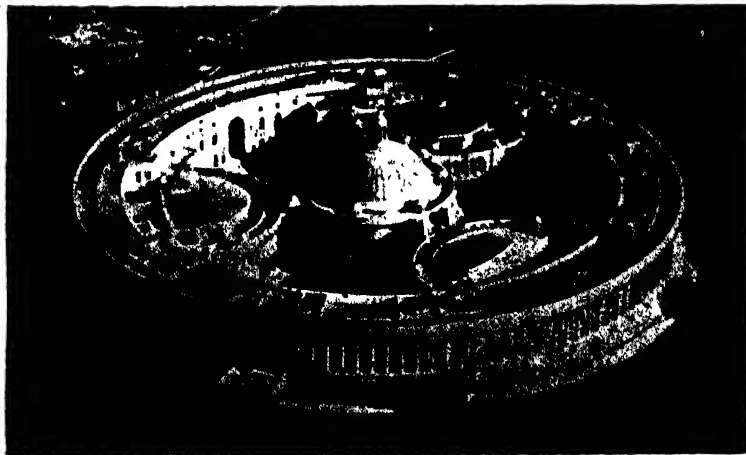
When a British Emperor of India was crowned on Indian soil for the first time, Delhi was selected as the seat of the Imperial Coronation in December, 1911. At the close of the Durbar King George V announced: "We have decided upon the transfer of the Seat of the Government of India from Calcutta to the ancient Capital of Delhi."

The present capital of the Republic of India, known as New Delhi, is about four miles south of Shah Jahan's Delhi. It took nearly twenty years to build. In the conception of the Town Planning Committee the central point of interest in the layout, which gives the motif of the whole, is Government House, the Council Chamber and the large blocks of Secretariats in which the President and Council of Ministers of the Republic administer the departments of Government. This Governmental centre has been given a position at Raisina Hill, near the centre of the new city. This will be the centre of its life.

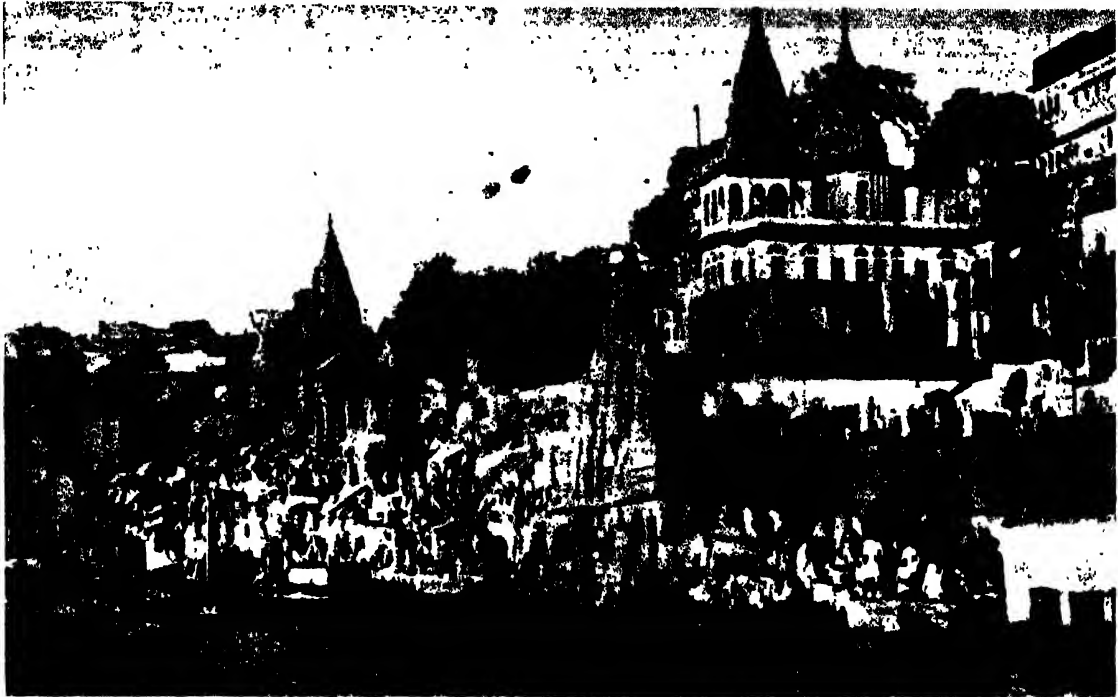
The Central Buildings and general layout of this new Delhi were designed by Sir Edwin Lutyens and Sir Herbert Baker. Their design, grandly conceived in a fusion of the East and the West, may one day come to be known as the classic style of Indo-British architecture. Constructed from materials supplied by the quarries, forests (including Burma) and rivers of India, except some reddish marble (Rosso-Ponforico) imported from Italy, decorated by Indian artists and craftsmen, this city of New Delhi has risen as the masterpiece of the modern builders' art amid the ruins of past glories.

Karachi. (Population 1,126,417.) The capital of Pakistan and the main sea-port of the country, Karachi, though not itself an ancient town, is said to mark the legendary site of "Karakula" of Alexander's time. It was only a small fishing village in the eighteenth century and remained obscure until the gradual development of agriculture in Sind and the Punjab increased its natural importance as the only port serving the vast Indus Valley. It was the rapid development of air travel, however, that gave it its greatest significance because Karachi lies on the trunk air routes of the world.

Nature has endowed the city with a bright, sunny look and



NEW DELHI
The Council Chamber
Photo: Indian Trade Commissioner



BENARES

The bathing ghats

Photo: Indian Trade Commissioner

a fairly cool climate. Its busy streets seem to be crowded with every kind of traffic, ranging from fleets of modern automobiles to horse-carriages and the fantastic donkey carts and camel-carts jingling with bells and providing cheap transport for goods, apart from the buses and tramways that serve all parts of the city. There are many fine buildings to be seen, but partition brought in its train a vast influx of refugees, resulting inevitably in the growth of clusters of temporary shacks and hutments. Though still a problem of some magnitude, the refugees are gradually being settled in numerous Government planned colonies that have sprung up all around Karachi.

The crop of industrial units in the suburbs reflects the commercial prosperity of the city. Karachi has the largest cigarette factory in Asia as well as a large cement factory and a number of textile mills, all conveniently situated in one vast industrial area. The great rail-road yards are always packed with thousands of bales of cotton, and the Keamari Docks and the West Wharf are other hives of activity.

Not being an old city, Karachi can boast of few historical monuments. There is a National Museum, however, housed in a fine old Gothic building called Frere Hall. It contains repre-

sentative collections of pieces depicting the ancient civilization of East and West Pakistan, and gives a fairly comprehensive idea of the famous Indus Valley civilization together with fine examples of the Buddhist art of the North-West Frontier Province and East Bengal.

Benares. One of the seven most sacred cities of the Hindus, Benares is situated on the left bank of the Ganges, which runs in an easterly direction here, in the United Provinces of Agra and Oudh. Its original name "Varanasi," derived from two tributaries of the Ganges, the Varuna and the Asi, forming its northern and southern boundaries, is mentioned in the earliest Sanskrit literature, and its supremacy as a stronghold of Hindu religion and culture is traceable at least from the sixth century B.C., when Buddha repaired to it to preach his first sermon and establish his faith, known to the world as Buddhism.

Benares is a city of temples, of which the most famous are the Golden Temple (dedicated to Shiva of Hindu Trinity), Durga Temple (Shiva's consort), Annapurna Temple (Goddess of Bounty) and the Kedar Temple (Shiva). Architecturally the oldest buildings of present Benares date from the middle of the sixteenth century A.D., including many rich and ornate palaces which rise in massive stone structures

along its length of river-front. To the annual millions of pilgrims the "ghats" (bathing places) along the Ganges are equally sacred with the temples, and the well-known ones are the Asi, Dasaswamedh, and the Manikarnika Ghats. In the residential Hindu University, in the southern suburb, nearly 3500 students are accommodated.

Benares, with one of the main railway junctions (Moghul Serai) only a few miles away across the river, is one of the chief com-

for one of the world's finest monuments—the Taj Mahal. The old city was about eleven square miles in area. The climate is healthy, and a military cantonment is maintained.

Agra contains the best of Mohammedan architecture. Its fort, its palaces (Diwan-i-Khas, Jehangiri Mahal, etc.), its mosques (Pearl Mosque) and mausoleums (tombs of Itmud-ud-Doulah and of Akbar at Sikandra a few miles from the city), its gardens and the Taj Mahal are imperishable aesthetic achievements.



LUCK-

A panoramic view showing the bridge, the temples and

Photo: Indian

mercial centres. Its economic welfare, however, depends in no small degree on its pilgrim traffic. Among its industries, mainly manual, and craftsmanship, may be mentioned ornamental brass and white metal wares, gold and silver embroideries on silk and velvet, and its silk brocades (Kincobs).

Except in winter, the climate is moist and relaxing. From a sanitary and public health viewpoint the old city does not appear to have made much progress. Overcrowding, lack of sanitation and improper nourishment of its poorer section of population compare unfavourably with the more modern planning and development of its suburbs; though, in fairness, it must be mentioned that, due to a belief among the Hindus that death in Benares amounts to salvation, a goodly number of sick and ailing crowd into the older areas of the city. Population, 356,000.

Agra. A city in Uttar Pradesh State, standing on the right bank of the River Jumna about 125 miles by road from Delhi, famous

Traditionally a city of artisans and craftsmen for princely patrons, Agra is now also one of the chief commercial centres in India. Its gold and silver embroidery, and pietra dura on white marble wares are well-known. Its carpets (products of hand-looms,) are things of beauty that endure. Population, 376,000.

Madras. (Population, 1,430,000; area, twenty-nine square miles.) One of the major ports, Madras is the capital of the state of that name on the east coast of the Indian Peninsula. Its climate is hot, tropical, but not unpleasant. Madras is liable to severe cyclones.

Originally known as Madraspatam, it was the first territorial acquisition of the East India Company in India, with the exception of Armagaon. A grant to rent this small fishing village, three miles north of the Portuguese Settlement of São Thome, from the Agent of the Rajah of Vijaynagar, a Hindu State in southern India, was secured by the East India Company in 1639.

Madras, which has no natural harbour, is

still the most important port on the south-eastern borders of India, and has been until recently a main centre of labour emigration to Burma, Malaya, and South Africa. Among the principal imports entering the port are food grains, broken rice, manufactured cotton goods, twist and yarn, machinery, iron and steel, railway plant, Australian horses, bulk oil, petrol and kerosene oil (which are pumped into million-gallon tanks), and coal. The principal exports are hides and skins, chrome ore

the Marina, one of the finest promenades, the High Court, with its 160 feet high lighthouse tower, Government House, the Museum and Connemara Library, St. George's Cathedral, and the Memorial Hall, are some of the public places of importance. Madras has also several public parks and gardens of great beauty.

Bombay. (Population, 2,840,000; area 22.48 square miles.) Capital of the Province and the largest port in the west of India.



NOW

Some of the public buildings near the River Gumti
Trade Commission

and magnesite, ground-nut and other oil-seeds, raw cotton, manures, etc.

Silk and cotton weaving, tanning, embroidery, wood-carving, brass and copper repoussé work, etc., are some of the industrial crafts in Madras. There are several cotton mills in and around the city.

The Corporation of Madras was established under the Royal Charter of James II, though municipal government proper began in 1792. Sanitation, drainage, and roads have been the principal achievements of Madras, while the city's General Hospital, established in the early days of the Company as a naval hospital, is one of the oldest in India. Electric tramways were introduced in Madras for the first time in any city in India.

The Luz Church, bearing the oldest European inscription in India, dated 1516, and the São Thome Cathedral (1504), reputed to contain the tomb of St. Thomas, are situated within the city boundaries. The Marine Aquarium, the only one of its kind in India,

Originally an island, it is now connected with the mainland by causeways and bridges. The climate is temperate.

Early in the sixteenth century the island of Bombay, one of seven, was a small and swampy village inhabited by Koli fishermen, who worshipped a deity called "Mumbabai"—whose temple still stands. About 1534 Sultan Bahadur Shah of Gujarat ceded the islands of Bassein, Salsette and Bombay to the Portuguese, from whom King Charles II of Great Britain received Bombay Island as dowry on his marriage to Infanta Catherine in 1661. Seven years later Charles ceded it to the East India Company for an annual rent of £10.

By drainage and reclamation, seven of the largest islands were linked together as one complete unit, and in the 200 odd years from 1720, its population has increased from about 50,000 to the present figure. Being on the sheltered side of the island, Bombay has one of the best natural harbours in the world. Its first dock, now known as the Upper Old

Bombay Dock, was opened in 1754, built under the supervision of a Parsi shipbuilder, Lavji Wadia, and to-day the three main docks have 31,000 feet of quays. With the opening of railways about the middle of the nineteenth century Bombay became the new gateway of India for the western world, and it is appropriate that an actual gateway ("The Gateway of India") should have been erected on its sea

Bombay has become the textile centre of India. There are about seventy-five large cotton mills in Bombay City, with over 2,300,000 spindles and 60,000 looms, employing 110,000 hands daily. Apart from its principal industry, Bombay possesses a number of subsidiary industries and handicrafts, e.g. flour mills, tanneries, and the making of silverware.

The civic life of Bombay has kept pace



BOMBAY

Left: A street scene showing the fine modern buildings. Right: "The Gateway of India"

Photos: Indian Trade Commissioner; Sport and General

front to commemorate the landing of King George V and Queen Mary, in December, 1911.

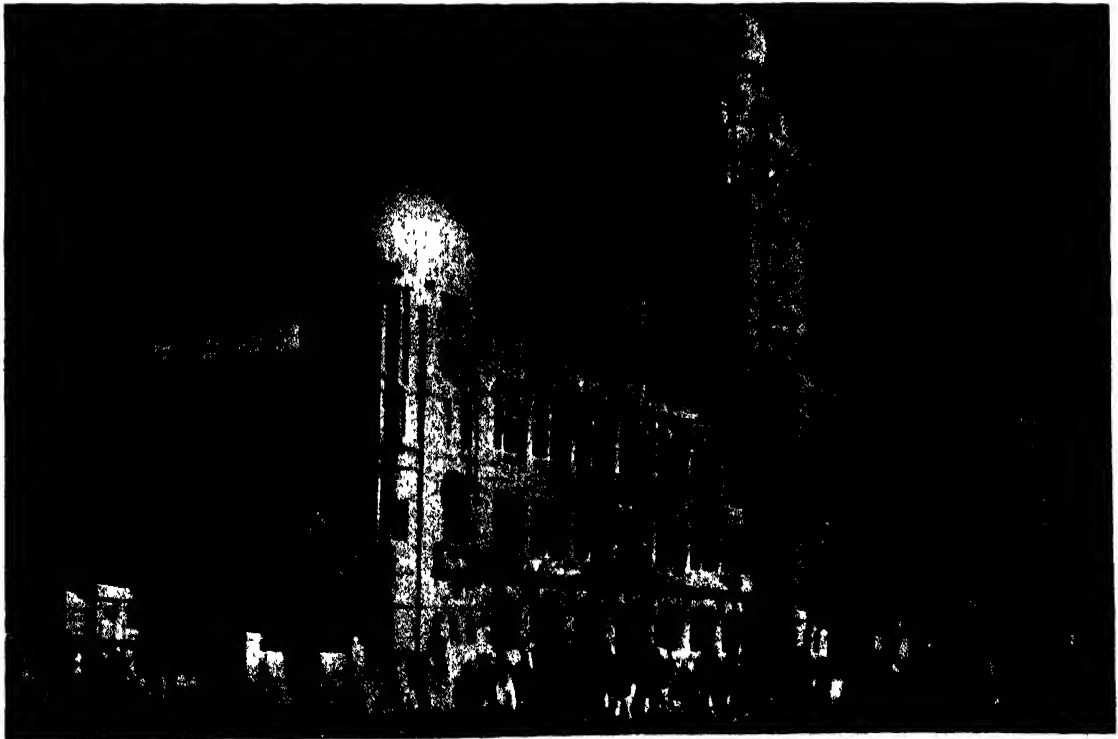
From its earliest days Bombay has been a commercial and manufacturing centre. High was the reputation of its teakwood ships. Principal exports now are raw cotton, twist and yarn, oilseeds, wool and woollens, myrobalans, manganese ore and food grains, hides and skins and precious metals. Among its main imports, apart from cotton goods, are machinery, railway plant, motor-cars, hardware, iron and steel goods, liquid fuel and kerosene oil, vegetable oils, sugar, coal, and various miscellaneous manufactures.

With the growth of industrialization and aided by the early development of hydro-electric power (Tata Hydro-electric Schemes),

with its economic growth. The Bombay Municipality (later a Corporation), established in 1872, has done well for the material and moral welfare of its cosmopolitan population, as the city's roads, sanitation, education, and, lately, housing schemes, testify. Architecturally Bombay may also be called cosmopolitan, with its sixteenth century Gujarat architectural style of the Gate of India, the Early English style of the High Court; the mixture of the classical and Gothic of one of its oldest churches—St. Thomas' Cathedral, begun in 1672; the fifteenth and sixteenth century local style of the Prince of Wales Museum; the Doric external of the Town Hall; the Bijapur style of the Victoria Terminus (headquarters of the G.I.P. Railway); the Gothic-Oriental Municipal Buildings, and the fifteenth century



CALCUTTA
The Jain Temple
Photo: Fox



KARACHI
The Municipal Corporation building
Photo: B.O.A.C.



MADURA

The entrance of the Meenakshi Temple

Photo Indian Trade Commissioner

French of the University (established in 1857), among many of its public buildings.

Lately, because of modernization and opening of several other ports, Bombay has slightly suffered in its monopoly of sea-borne trade.

Calcutta. (Population, 3,490,000; area, 28,694 acres.) The capital of West Bengal, Calcutta is not only the most important port on the east coast of India but is the second largest city in the British Commonwealth. It is situated on the left bank of the Hooghly River—one of the many arms of the Ganges on its southward journey to the Bay of Bengal—about eighty-two miles from the sea. Like Bombay, its climate is humid and temperate, appearing to be more oppressive owing to the absence of the sea breezes of the former city.

Calcutta, like Bombay and Madras, also grew under British rule in India. About 250 years ago, Job Charnock left the East India Company's factory town Hooghly, and sailed about twenty-five miles down the river to settle

in one of the three fishing villages of Sutanuti, Kulikata, and Gobindpur. In 1698 permission to rent the three villages was obtained from the Emperor Aurangzebe. For the next fifty-eight years the town prospered in peace, until in 1756 trouble broke out with the Nawab of Murshidabad over the burning of Hooghly town by British vessels. A year later Clive's victory at the Battle of Plassey regained Calcutta for the British; and from 1774 until 1911 it was the capital of British India.

Architecturally Calcutta is perhaps quieter than Bombay, its principal public buildings, e.g. the Town Hall, the General Post Office, the Imperial Library, the University (established in 1857), St. Paul's Cathedral (1847), and the High Court, possessing Greco-Romanesque columns, Gothic features, and domes. Victoria Memorial (1921) is an impressive edifice, but conveys an impression of a modernized reflection of the Taj Mahal of Agra.

At the exit of the rivers of the Gangetic Basin, Calcutta was the principal outlet for the most fertile districts of northern India, from Punjab and beyond in the north-west to Assam in the north-east, before the advent of railways. The rivers of northern India were the main arteries along which flowed the sea-borne import and export trade of India through Calcutta. Even now, if Bombay handles more species of merchandise, greater bulk passes through Calcutta.

Among its exports are raw and manufactured jute (almost a world monopoly of Bengal), tea, coal, iron, rice, wheat, hides and skins, oil-seeds, lac and manganese and other miscellaneous articles. It imports manufactured cotton, iron, and steel goods, machinery and railway plant, etc.

Industrially Calcutta is the centre of jute manufacture of India. In the locality there are approximately one hundred mills, employing an average of about 300,000 hands. There are a number of subsidiary industries in Calcutta, e.g. flour mills, tanneries, rice, paper and oil mills, printing and engineering industries.

With the development of civil aviation, Calcutta has become a key position (with its air port at Dum Dum—an outer suburb about seven miles north of the city) on the direct route from England to Australia.

Ceylon

THE name *Ceylon*, by which this beautiful and fertile island of 25,332 square miles is known to Europeans, is a survival from the Arabic *Selen dib*, itself a corruption of its native name *Sri Lanka dwipa*—The Resplendent Island. The littoral leads up by easy stages from the waters of the Indian Ocean to the mountainous plateau of the central hinterland, a substantial portion of which is above the 4000 feet level, and reaches its highest altitude in Peduru Tala Gala (8292 feet). The best-known peak is the cone-shaped Samanala Kanda (7360 feet), called Adam's Peak by Europeans, which is the scene of a great yearly pilgrimage to worship at the impression of a footprint ascribed variously to Siva, Buddha, and Adam.

Numerous rivers and streams rising among the mountains debouch into the sea at various points on the coast; four of these are of considerable size, the Mahaweli Ganga being 206 miles in length—but they are not adapted for transport other than by the country barges. Harbours suitable for modern shipping are few, but Tiru kona malai (otherwise, Trincomalee) on the east, ranks among the finest in Asia;



A VILLAGE SCENE NEAR GALLE
Photo Tea Marketing Board



RELIGION AND ARCHITECTURE
The Mohammedan Mosque in Castle Street, Kandy
Photo: Tea Marketing Board

Galle in the south, though capacious, is marred by a dangerous approach; while improvements at Colombo, the modern capital, have raised it to the position of a first-class port capable of dealing with the bulk of the island's commerce as well as the heavy intercontinental traffic.

The surrounding waters greatly moderate the heat which would naturally be expected in a country within six degrees of the Equator; the temperature of Colombo is in the neighbourhood of 80° Fahrenheit throughout the year and the thermometer has been known to fall to 26° Fahrenheit at Nuwara Eliya, the hill station. On the highlands conditions are delightful, and wherever there is long-established cultivation and a sufficiency of food, health conditions are good. On the other hand, two-thirds of the island is under forest, which has overgrown the ancient centres of population, some dating back to the sixth century before Christ, and here malaria of many virulent types is rampant.

As the result of its position the island enjoys

the benefit of both the south-west and the north-east monsoons, which bring with them an abundance of moisture. The yearly rainfall at Colombo is 90 inches, which sinks to 50 inches at Jaffna in the drier north. A remarkable luxuriance of vegetation, which renders



ON A RUBBER ESTATE
Photo Ceylon Association

the weeding of cultivated lands a serious problem, is the result. The timber trees are more suited for cabinet work than for general industrial purposes; the ebony and satinwood are well known in the European market, but hardwood timbers like iron-wood are not accessible in sufficient quantity to meet even the local demand, and the bulk of the railway sleepers which are needed is imported from abroad.

Fauna, Gems, and Minerals. Herds of elephants still roam over the districts where their feeding grounds are marked on the

Ptolemy maps of the third century. The fiercest wild animal is the buffalo, which also is found in herds. Leopard and bear are common; deer of various species abound, as well as smaller animals like the hare. Most of the beautiful tropical birds are met with—perhaps the finest among them is, in the full glory of its plumage, the wild peacock. Crocodiles are less plentiful than they used to be, owing to the large demand for their skins; the neighbouring seas contain all varieties of tropical fish, on which a large fishing population depend for their livelihood, and whales are occasionally washed up on the shores. The fresh water fishes have not been exploited to any extent, but both the imported trout, which has bred rapidly in mountain streams, and several kinds of sea fish afford excellent sport. Turtle are abundant round the coasts, and include both the edible and shell-yielding kinds. The pearl fisheries, once so famous throughout the world, have been unproductive for the past thirty years.

Ceylon is poor in minerals, and though iron of good quality is found in many parts, cheap imports have put an end to its manufacture. The graphite is for certain purposes the finest in the world, containing as it does 96 per cent of pure carbon. The gems of Ceylon have always had a reputation for their size and brilliance; they include the sapphire, ruby, cat's-eye, alexandrite, spinel, and tourmalines of all colours. The precious metals are unknown. The manufacture of salt, a Government monopoly, is still carried on by the ancient method of solar evaporation of the brine.

The Peoples. The population has increased about four-fold since the completion of the British occupation in 1815, the total of the 1953 census being over eight millions. Of this number the Sinhalese, who are of Aryan stock from north India, and first settled in Ceylon in the sixth century before Christ, number about five and a half millions—the next in numerical importance being the Tamils, who are of Dravidian stock from south India, replenished at the present day by the annual influx of "coolies," or labourers, who form the main source of labour on tea and rubber plantations, to the number of about 850,000. The smaller communities include the Mohammedans of Indian origin, the descendants of the Dutch and Portuguese settlers who are known as "burghers," Malays, and 15,000 Britishers, who, though numerically the smallest, form a most important element in the official and commercial life of the country.

Generally speaking, the Sinhalese follow the religion of Gautama Buddha, which was introduced into the island in the fourth century before Christ by the son of the great emperor Asoka. The more important temples are still supported by the endowments established long ago by the native kings, and, besides the foot-

of the island depends largely on agriculture, for industrial works have only started on a large scale during the last decade. More than a million acres are planted with coconuts, the produce of which, besides contributing to meet the modest needs of the inhabitants, is exported as oil, dried kernels, desiccated coconut, fibre,



A FERTILE LANDSCAPE

A view of the paddy fields from Kadugannawa Pass showing Bible Rock

Photo: Tea Marketing Board

print on Samanala Kanda, a relic which is reputed to be a tooth of the Buddha rescued from his funeral pyre and a tree of the fig family which grew from a branch of that under which he attained Enlightenment, and which was planted shortly after the religion was introduced, command particular veneration from Buddhists in all parts of the world. The Tamils are mainly Hindus, and there are nearly half a million Christians of various denominations, while the rest of the population are followers of Mohammed.

Agriculture and Industry. The prosperity

cattle food and, within recent times, charcoal for the manufacture of gas-masks. Rice is the universal food. Its cultivation is exclusively in the hands of the natives, and though 900,000 acres are devoted to it, the supply is insufficient to meet the demand. The success of rice cultivation depends on an abundant supply of water, to ensure which great reservoirs have been constructed throughout the country from the remotest period of its history. The majority of these are now in ruins and are being gradually restored with the increase of population.

The cultivation of rubber, started in the



SCENES IN COLOMBO

Above: A street in the native quarter which is used as a backyard for the natives' dwelling places. *Below:* Characteristic bullock carts

Photos: Tea Marketing Board; Blue Star Line

nineteenth century, has attained important dimensions, but from the commercial point of view the chief object of cultivation is tea, which replaced coffee when it was ruined by a mysterious disease back in the 1880's. The values of the exports of these two latter for 1950 were tea Rs. 751,650,630 and rubber Rs. 405,451,334. Nearly all the tea estates and about 75 per cent of the rubber plantations are owned by British companies.

Government has been responsible for the establishment of factories for the production of plywood, leather goods, paper, glass, chemicals and drugs. Future planning includes the establishment of textile and steel industries and factories for the extraction of refined coconut oil from poonac amongst others. A government hydro-electric scheme was started in 1949.

Transport and Trade.

Transport is provided for by 900 miles of railway, which is entirely State-owned, and 16,500 miles of roads and cart-tracks. The former picturesque bullock cart has been largely displaced by modern motor vehicles of all descriptions.

Finance. The total revenue for the financial year 1951-2 was Rs. 910,822,565, and the expenditure was Rs. 982,839,906. These figures are approximately double those for 1946-7. Income tax has been introduced since 1932, and there is also a moderate system of death duties, but the main revenue of the country is derived from the Customs. The currency consists of rupees and cents, the rupee being worth about 1s. 6d. in terms of sterling.

Besides the expenditure on public works, voted from the general revenue, the various local organizations have their own budgets; among them are three municipalities and various urban councils and village organizations. Justice is administered by a series of courts, commencing from the Supreme Court, which is established at Colombo, through the district courts which have unlimited civil jurisdiction, and the police

courts, down to the village tribunals. Religious law still holds sway among the Moslems in such matters as marriage and divorce.

The system of education is receiving increased attention. The schools vary from the village schools, where the native languages are taught, up to moderate standard, bilingual schools where English is added at a later stage, and English schools where that language is exclusively the medium of instruction.

In 1945 a scheme of 'Free Education from the Kindergarten to the University' was introduced and this has had far reaching consequences. Government schools became free and all other schools were given the opportunity of joining the scheme. As there were at that time 5685 schools of all sorts, with 833,600 pupils, it can be understood that the scheme

was a comprehensive one. There is also a Medical School, a Law School and a Government Training College, while the old University College of Colombo, founded in 1921, was made the University of Ceylon in 1942. There is an efficient system of Government hospitals and dispensaries, and practitioners of the ancient native system of medicine are found in most villages, where they are much in demand. The infant death-rate has been reduced from 166 per 1000 births in 1936 to 75 in 1951. Female labourers on estates are entitled to free medical care for a month after confinement and all estate labourers receive free treatment. The Indian members of the Community have their own representatives in parliament to watch over their interests.

Steps to Dominion Status. The steps to Dominion status in Ceylon have been experimental and interesting and may well create a

precedent for the development of other Crown Colonies.

The island was administered as a Crown Colony until 1931 when a new constitution gave it a considerable degree of independence and powers of self-government. A state council elected by universal suffrage was created and was given legislative and executive powers through its own appropriate Ministers. Certain subjects were retained under the control of the British Government. In 1946 another new constitution was granted, giving a wider measure of self-governing responsibility, Britain merely retaining the right to interfere if things went wrong. After new elections and when the government was settled in further steps were taken, in 1948, to amend the constitution so as to confer upon Ceylon fully responsible status within the British Commonwealth of Nations.

Burma

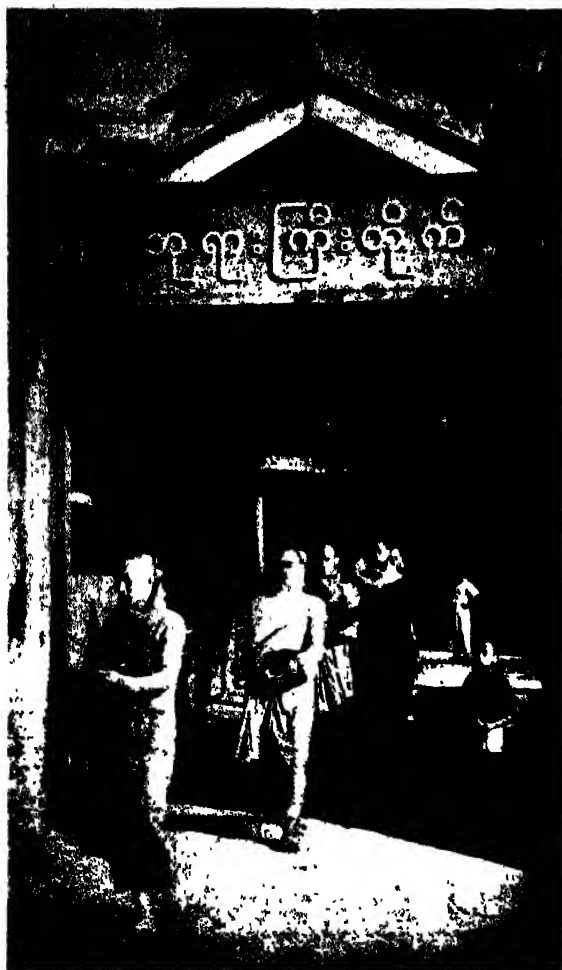
BURMA, lying on the eastern side of the Bay of Bengal, is bounded by Pakistan and Assam (India) on the west, and by China and Thailand on the east. Its length is 1300 miles, and its greatest breadth 700 miles. It is separated from India by a long range of mountains on the west, and from China and Thailand by mountains on the east. The eastern end of the Himalaya joins up with the mountains in the northern part of Burma, and the Shan plateau of Burma forms part of the great tableland which stretches over the south-western part of China. The general lay-out of the main part of the country is not unlike the outspread fingers of a man's hand, the palm representing the mountainous region to the north, the fingers the ridges which run southward from it, and the spaces between them the river valleys. On the north-western boundary is the ridge which ends in the Arakan Yoma, and separates the three districts of Arakan from Burma proper. Between this and the ridge next to the east (which ends in the Pegu Yoma) are the Valleys of the Chindwin and Lower Irrawaddy Rivers. Next come the Valleys of the Upper Irrawaddy (which breaks through the Pegu Yoma line below Mandalay), and the Sittang. The next ridge consists of hilly country ending in the plateau of the Shan



RELIGION

Statue of Buddha on the platform of the Shiva Dagon Pagoda, Rangoon

Photo: *Thos. Cook & Son, Ltd.*



BURMESE MONKS

Setting out for the day carrying their begging bowls, on which they are entirely dependent for sustenance

Photo Picture Post Library

States, and between this and the Chinese frontier comes the deep Valley of the Salween River. South of the mouth of the Salween, which enters the Gulf of Martaban at Moulmein, lie the Tenasserim districts, a narrow strip of broken country between Siam and the sea.

The Arakan Yoma consists of many parallel ridges formed by tightly-folded and fairly young sedimentary rocks. The Pegu Yoma also consists of folded sedimentary rocks, with an extinct volcano, Mount Popa. In the Valleys of the Chindwin and Irrawaddy Rivers are soft sedimentary rocks in which oil is found. East of the Irrawaddy and the Sittang the rocks are crystalline or limestone, and here, and in the connected Tenasserim districts to the south, lies the metallic wealth of the country. The Irrawaddy River carries

much silt, which, under the influence of the tides, is deposited at its mouth, and has gradually formed a great deltaic area.

Social Unity. The geographical isolation of Burma has resulted in a greater measure of social unity than is usual in eastern countries. Out of 18,000,000 inhabitants of Burma proper, 84 per cent are Buddhists. The Burmese race has a strong power of absorption, and as the circle of its influence has widened, within the geographical limits of Burma, so has Buddhism made more converts. Buddhism does not recognize caste distinctions, and a great difference between India and Burma is that there is no caste problem in the latter. Language again is a third factor making for social unity. Seven-eighths of the whole population speaks Burmese and Burmese is understood everywhere except in the remote hill-tracts. The fourth factor is the position of Burmese women. Child marriage and the *purdah* system do not exist among Burmans. Women take their full share in public and private affairs.

After liberation from the Japanese, Burma was given her independence and declaring herself to be a free and democratic republic she seceded from the British Commonwealth of Nations in 1948. Thus ended 61 years of British rule and development.

Rainfall and Vegetation. The temperature and rainfall in different parts of Burma are influenced by the south-west monsoon, which lasts from May till September. This wind comes in from the Indian Ocean highly charged with moisture. The clouds which come up from the south are precipitated in the delta of the Irrawaddy and the Sittang, and those coming from the west break on the Arakan Yoma. There is heavy rain also on the hills to the north and east of Burma. But most of the rain falls before the clouds reach the centre of the country, where there is a comparatively dry zone. The resulting differences in rainfall have a great effect upon the vegetation, the nature of cultivation, and the way the people live.

In the dry zone the rainfall is between twenty-five and thirty inches a year; but loss by evaporation is severe, and, as the rain comes in heavy bursts, much of it runs off the surface of the ground and disappears into the streams. Consequently it is hardly ever possible to grow rice, which needs standing water for its cultivation, without artificial assistance. In the deltaic area, on the other hand, where the

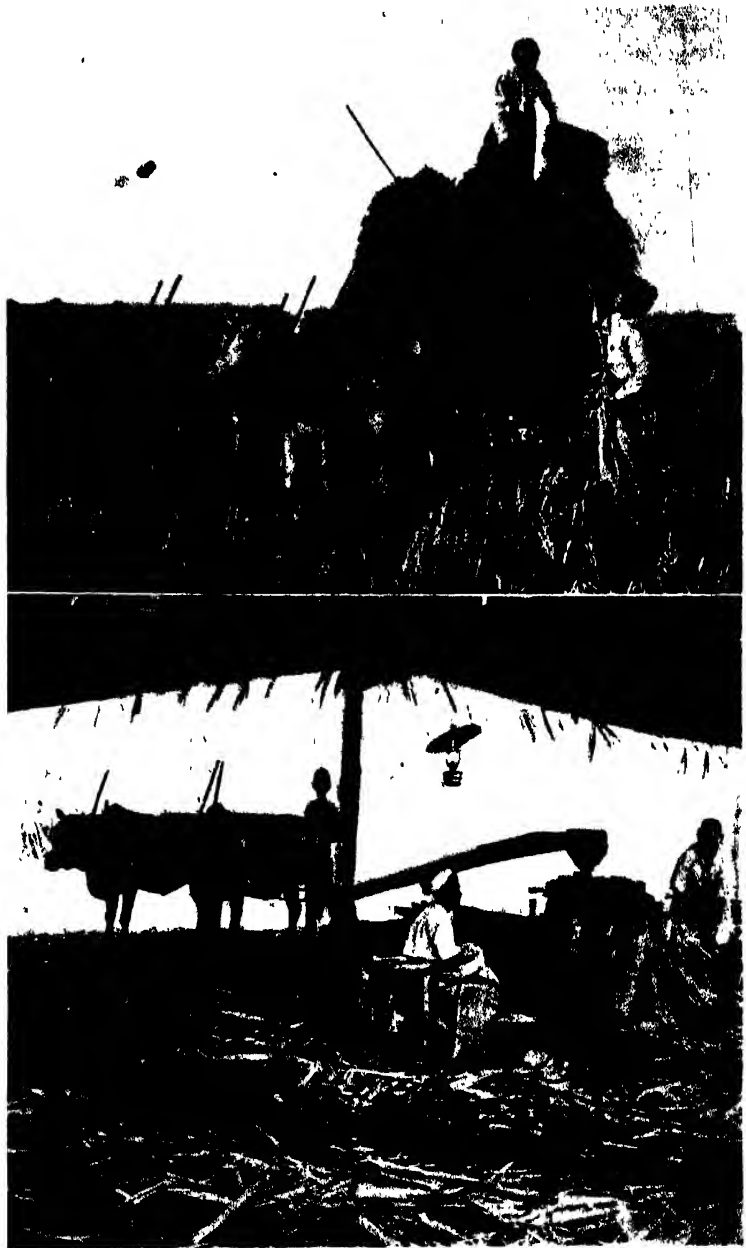
rainfall is about 100 inches a year, rain-fed rice is the only important crop; and the difficulty is to prevent the fields from becoming waterlogged. In the coastal districts of Arakan and Tenasserim the rainfall is still heavier. Temperatures are highest from February to April, and lowest from November to January. In the plains the maximum temperature is about 85° Fahrenheit in January, and varies from 102° in the dry zone to 88° in the delta during April.

Where the rainfall approaches ninety inches per annum the forest growth is evergreen, and yields hardwoods for which there is now an increasing overseas demand. In the delta mangrove and similar trees yield firewood which is consumed locally. In the dry zone the vegetation consists of thorny shrubs and bushes with palms and a few inferior trees which are used for house posts. In areas of moderate rainfall (about fifty inches) valuable deciduous forests are found, yielding in particular teak, one of Burma's best known products.

The total population is nearly 18,500,000, and two-thirds of it is engaged in agriculture. The density of the population is seventy-one to the square mile, but this sparseness is due to the inclusion of great areas of mountains and forests. The population is thickest in the delta, along the river valleys, near the junction of the Irrawaddy and Chindwin Rivers, and near the two seaports of Akyab (Arakan) and Moulmein (Tenasserim). Agriculture is the basis upon which the population is distributed.

Cultivated Crops. Rather more than a fifth of the country is occupied for cultivation, and the area actually cultivated comes to something like 17,000,000 acres. The average rice crop accounts for 6,000,000 acres, sesamum for 800,000 acres, millet, maize and similar crops

(C. 1901)



AGRICULTURE

*Above: Gathering paddy sheaves. Below: Crushing sugar cane
From the Imperial Institute Collections, South Kensington*

500,000 acres, ground-nuts 375,000 acres, and cotton 176,000 acres. Amongst other miscellaneous crops, vegetables, tobacco and rubber are the most important. Rice is grown all over the country, but the delta contains seven-tenths of the crop. Burma used to be the world's largest exporter of rice; her exports were more than the combined exports of Thailand and Indo-China, the only other countries exporting

on a large scale. The exports represent rather less than half the total crop.

Bullocks and buffaloes are used to plough and harrow the rice fields and to thresh the crop, but sowing, transplanting, reaping and winnowing are all done by hand; and the demand for labour at harvest is so large that thousands of immigrants from India find employment. The greater part of the marketable surplus of the crop is sold off the threshing floors by the actual growers during the first three months of the year, and half of the exports go to India.

Of the crops grown in the dry zone, sesamum and ground-nut yield oil, which is used for cooking, and residue cake which is exported. Many kinds of bean are grown; those exported are chiefly Rangoon Red and Rangoon White beans (*phaseolus lunatus*) for use as a haricot bean. Cotton is normally exported to Japan; the chief variety (*wāgale*) is a good warp cotton with a $\frac{3}{4}$ inch staple.

Rural industries are nearly all connected with agriculture; they include the making of bullock carts and other agricultural necessities, and also weaving of silk and cotton, the collection of forest produce, and making articles of cane and bamboo.

Communications. Transport in rural areas is ordinarily by wooden carts pulled by a pair of bullocks, but motor transport is extending rapidly. The road system of Burma consists of a trunk road running north from Rangoon to Mandalay, and crossing the Irrawaddy by the Ava bridge, with a loop to the west which taps the Irrawaddy River ports. The Burma Railways lines serve all except the most inaccessible parts of the country. The main line from Rangoon to Mandalay is nearly 400 miles long and follows the Sittang Valley. Near Mandalay it crosses the Irrawaddy by the Ava Bridge, opened in 1934, but damaged in World War II. A ferry service now operates across the river. A second line 160 miles long runs north-west from Rangoon to Prome on the Lower Irrawaddy, and a third leaves the Rangoon-Mandalay line at Pegu, fifty miles north, and connects the Tenasserim district of Moulmein with the rest of Burma.

The railways suffered severely during the second World War and the subsequent occupation of the country by the Japanese. A vast amount of rehabilitation was necessary on liberation; the route mileage was 1,400 in 1950 as against 2,050 in 1942.

Burma is rich in navigable waterways, which

still provide her main lines of communication. The bulk of the steamer traffic is controlled by the state-owned Inland Water Transport Board, which has a large fleet of steamers plying on the Chindwin and Irrawaddy Rivers, and in the creeks of the delta. The crews number about 4500 and in addition some 3500 workers are employed in the dockyard at Rangoon. Nearly all those who man these vessels come from the Chittagong district of Bengal, and not from Burma itself. This has come about because the Chittagonians, who have a special aptitude for the work, followed the British from India when Burma was annexed. Similarly on the Burma Railways it is estimated that at least two-thirds of the workers employed are Indians.

The movement of the rice crop after harvest gives rise to a large amount of loosely organized employment. The bulk of the unhusked rice from Lower Burma going to the mills at the ports is carried by boat, and thousands of country boats and barges capable of holding from ten to fifty tons are to be seen in the network of waterways of the delta in the milling season. In 1939 the Burma road was completed; running from Lashio to Chungking this is as valuable in peace as it proved in war.

Rice Milling. Rice milling is one of the major industries of the country. About fifty years ago the mills were large and concentrated mainly at the seaports; but within the last thirty years a large number of small mills have been erected in the districts. In milling the first process is to remove the outer covering or husk, which surrounds the kernel. Most of the mills are steam driven and rice husk is used as fuel. The next process is to remove the pericarp, giving what is known in commerce as white rice and the by-product, rice bran. Most of the employees in rice mills are Indians.

After the opening of the Suez Canal in the seventies of last century, the demand for Burma rice increased rapidly, there was little difficulty in securing fresh land for cultivation, and agriculture offered the Burman a more pleasant life than industrial employment in the towns. The more monotonous tasks were left to Indians, who got much better pay for them than they could find in India. But nearly all the land suitable for cultivation has now been taken up, economic pressure is making itself felt, and the Burmans are beginning to compete in occupations hitherto left to the Indians.

The Oil Fields. The Valley of the Irrawaddy contains the chief oil fields of Burma.

Oil has been obtained from hand-dug wells for many centuries, but with the introduction of western machinery production increased rapidly. The largest field is at Yenangyaung, on the left bank of the Irrawaddy, about 275 miles north of Rangoon; the second largest is at Singu about forty miles north of Yenangyaung on the same bank of the river. At the north end of the Singu field protective and training banks have been built out into the river to enable

The output amounts to only one-tenth of the pre-war 1,000,000 tons annually.

Metal Resources. The only lead mine of any importance in Burma is the Bawdwin mine at Namtu in the Northern Shan States, situated nearly 600 miles from Rangoon. This mine produces also zinc, silver, and other metals. The company which works it employs some 16,000 people, among whom, apart from workers who come from India (mainly from



NATIVE FISHING

Arakanese fishermen landing a big haul of fish at Andrew Bay, Arakan
From the Imperial Institute Collections, South Kensington

wells to be drilled and to obtain the oil lying under the river bed.

At first a refinery near Rangoon was fed by intermittent supplies of crude oil brought down the Irrawaddy River in earthenware jars bound together with bamboos to form a raft. Later it was transported in oil flats by the former Irrawaddy Flotilla Company. Now it is pumped through a ten inch pipe line from Yenangyaung to Syriam, near Rangoon, where it is refined into illuminating oil, motor spirit, paraffin wax, etc., all of which products are in great demand throughout Burma and India. Approximately one half the employees on the oil fields are Burmans and one half Indians.

hill districts) there are a substantial number of Chinese from Yunnan. The mine is far from any centre of population, an industrial town hidden away in the middle of the hills. The company's own railway covers the fifty miles between the mine and the main railway line, and with its ore mills, smelter and subsidiary plant the mine forms a self-contained settlement.

In the Southern Shan States and in Tenasserim valuable ores of tin and tungsten or wolfram are found in several places, such as Mawchi. Some of the tin ore is mined in hard rocks, but much of it has been washed out by rain and is found in the beds of the rivers.

Rubber. The rubber plantations of Burma

are about as large and as productive as those of the whole of India. The Burma plantations are mostly situated in the Tenasserim districts. A feature of the cultivation is the small labour force employed, as compared with tea or coffee. This part of Burma is almost outside the range of the south-west monsoon, and its rainfall is less concentrated than that of the districts farther north; hence its suitability for rubber cultivation.

Teak and Other Timbers. Burma has vast areas of forest, and the extraction, preparation and export of timber form one of the

officer of the Royal Engineers, laid out the town on a plan which has been much admired. At the present time the population of Rangoon is about 700,000, more than half of whom are immigrants from other countries, notably India. Rangoon is in fact not a typical Burmese town, but a centre for the trade and industry of the country, most of which are in the hands of foreigners. It has a safe and up-to-date harbour, and used to be regarded as one of the greatest immigrant ports in the world. The town occupies a commanding position on the southernmost spur of the Pegu Yoma.



TIMBER WORKING WITH ELEPHANTS
From the Imperial Institute Collections, South Kensington

chief industries of the country. The quantity of teak exported annually is about 250,000 tons, and in addition other timbers (for use as railway sleepers and similar purposes) are exported on an increasing scale. Burma teak is well known as a timber which is almost everlasting, and requires no protective covering or painting even when exposed to the most exacting weather conditions.

Local Industry. The cottage industries of Burma are of importance. Weaving, the most widely spread, provides a subsidiary occupation for the cultivator and his family.

The Towns. The two chief cities of Burma are Rangoon and Mandalay. *Rangoon*, the modern capital, is built near the sea on one of the creeks connecting with the Irrawaddy River. It was founded, in its present form, after the Second Burmese War of 1852, when Pegu was added to Arakan and Tenasserim as part of the British Empire. Lieutenant Fraser, an

The products of the delta can reach Rangoon by water, but railway and road communication with the Irrawaddy at Prome and the Sittang Valley via Pegu are equally easy. The whole of Burma, except the coastal districts of Arakan and Tenasserim, exports and imports through Rangoon; into it come rice, oil, timber, beans and other produce, through it go machinery, cotton and other manufactured goods from other countries. Besides being the trading centre of the country, Rangoon is the administrative headquarters.

Mandalay, on the other hand, is a purely Burmese town. Its foundation was begun in 1856, and the capital was transferred, in accordance with the custom of eastern monarchies, from the neighbouring town of Amarapura in 1859. It continued to be the capital of the Kingdom of Burma until 1886. The population is now about 163,000.

Mandalay is situated near the centre of the

old Burmese kingdom, which was a land and not a sea power, and it overlooks the point where the Irrawaddy River breaks through the second of the hill ranges—the Pegu Yoma. From it roads and rivers lead to all parts of the country. In recent years, however, in addition to the railway line from Rangoon, the Burma Road has been opened. This, turning east at Mandalay, has been extended to the Chinese frontier and thence to Chungking, so that Burma is now nominally in direct communication with western China, and Mandalay may lose the

isolation which is part of its charm. Mandalay, nowadays, has little trade, and is supported by the agriculture of the surrounding country.

Other Towns. *Akyab* (population 38,000) the headquarters of the Arakan districts, is a seaport which has recently come into prominence as a station on the air-route from England to Australia, and *Moulmein* (population 71,000) the headquarters of the Tenasserim districts, was once well known for its yards where ships were built of Burma teak, but now is chiefly a port for the export of rice.

Bhutan

BHUTAN lies to the east of Nepal and Sikkim, and is the easternmost of the three eastern Himalayan states. Like Nepal, it is bounded on the north by Tibet and on the south by India; to the west lie Sikkim and the district of Darjeeling in Bengal, and to the east the Towang country, a vassal state of Tibet. Bhutan stretches for some 200 miles along the Indian frontier. It is about 20,000 square miles in area, and its population is estimated to be not more than three hundred thousand. From the existence of ruins all over the country, it is presumed that at one time the country must have had a larger population.

The inhabitants of Bhutan are of Tibetan origin and are called Bhutias. They speak dialects of Tibetan, although their written language is standard Tibetan, using the same script. The bulk of the population of Bhutan is concentrated within a belt of about forty miles in the central part of the country. Punaka is the old winter capital and the summer capital is Tashi-chöd-zong.

Bhutan can be approached along three different routes on the Indian frontier, namely, Darjeeling and Jalpaiguri districts in Bengal, and Darrang district in Assam.

Mountain Ranges. Unlike Nepal, the present Bhutan is entirely mountainous. It consists of a series of hills of rising altitudes running from north to south and separated by deep valleys. The principal ranges west to south are: (1) Masong-chung-dong, lying between the Rivers Amo-chu and Wang-chu; (2) Dokyong-la, lying between Wang-chu and Ma-chu; (3) the Black Range lying between Ma-chu and Manas; and (4) the Towang range in the extreme east.

The country can be further subdivided into three zones ascending from the south to the north. The first zone is some thirty miles broad, receives the full blast of the monsoon, having a rainfall ranging annually between 200 and 300 inches, and is covered with dense vegetation. It abounds in wild life, which includes elephants, tigers, rhinoceroses, and game of all varieties. The second zone is some forty miles wide and contains innumerable valleys. Some of them at elevations of from 3500 to 10,000 feet are under cultivation, and are the main centres of population. This is succeeded by the third zone of lofty Himalayan ranges, rising to heights of 24,000 feet. Up to about 18,000 feet, the flora is typically Alpine, and the best grazing grounds are to be found in this area.

Rivers. Four big rivers drain the country. Amo-chu flows through the Chumbi Valley, dividing Sikkim from Bhutan; Wang-chu waters the Ha, Para, and Trashi-chöd-zong Valleys and the Machu Punaka Valley. Manas, the largest of these rivers, drains the eastern districts, all the rivers finally meeting the Brahmaputra.

Products. Economically, Bhutan is backward. Cultivation is carried on by terracing and an ingenious system of irrigation. The main produce of the country are maize, rice, *marua* (millet), wheat, buckwheat, barley, and mustard. Spirit is manufactured from millet and barley and the habit of drinking is universal. Rice is mainly exported to Tibet. Formerly the main trade of the country flowed towards Tibet, but in later years, owing to periodical fairs in the British territory, the flow turned towards India. Among the industries,

metal manufacture, basket and mat making and weaving of coarse cloth are important.

The People. The pressure of population in Nepal is driving many Nepalese into western Bhutan and they have settled down as cultivators. They are not allowed to migrate farther east.

The population of Bhutan is composed of three classes—the lamas (priests), the penlops (chiefs), and peasants. The country is divided into nine provinces governed by eight penlops, all of whom live in fortified castles, the zongs. A debased variety of Buddhism, which is partly

devil worship, is the religion of the people. The lamas live in monasteries, are held in superstitious awe as being repositories of supernatural power, and wield great influence in consequence.

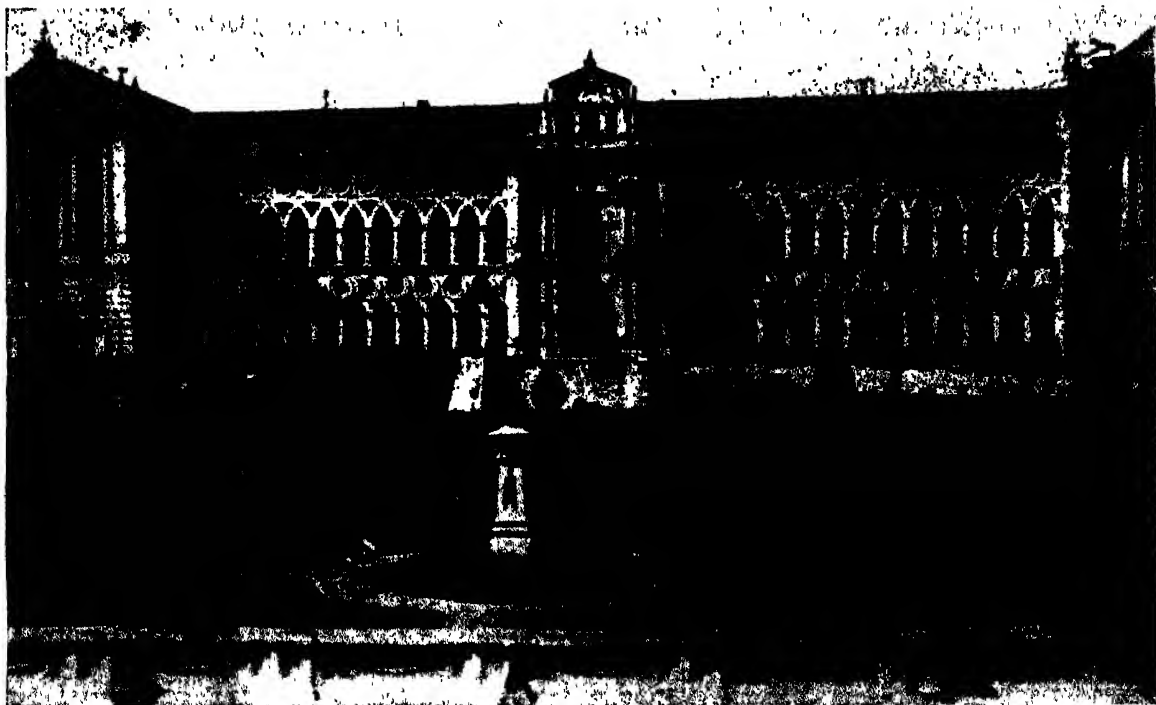
The supreme power was until recently shared between the *Dharmraja*, the spiritual head, and the *Debraja*, the temporal head, but the spiritual and temporal power now rests in a family of hereditary maharajas. The relations between Bhutan and India are excellent and India advises on foreign policy while not interfering in internal affairs.

Nepal

OF the three eastern Himalayan states (Bhutan, Sikkim, and Nepal), Nepal is by far the most interesting and important. Nepal is situated between Sikkim on the east, Kumaon on the west, bounded on the north by the Himalaya, and by the hot plains of India on the south. It stretches for some 500 miles along the Indian frontier and in breadth it varies between 90 and 140 miles. It is the

largest of the three states and has a total area of about 54,000 square miles.

The total population is about 6,500,000, composed of various races of predominantly Mongolian stock. The most important of these are the Gurkhas (of Rajput origin) and the Newars. Lepchas, Bhutias, Gurungs, and Magars are some of the other races. Nepal owes her artistic heritage, mostly of temples,



NARANHITTY DURBAR
The Palace of the King of Nepal
Photo: Nepalese Legation

to the Newars, and her fighting and administrative qualities to the Gurkhas.

The Cities. Katmandu is the capital. It is situated at an elevation of about 4000 feet in the central valley of Nepal, from which the whole country derives its name. It is surrounded on all sides by hills rising to heights of from 7000 to 9000 feet. The city has a population of about 110,000. It has been modernized and possesses its own electricity, pipe water, hospitals, and educational institutions. Patan and Bhatgaon are the other two important cities, each having a population of about 100,000.

Geographical Zones.

Nepal presents certain interesting physical features. The country may be divided into four distinct geographical zones of varying altitudes, each having its peculiar flora and fauna. The Terai, a belt of alluvial lowland, runs along the whole length of Nepal. It is part of the plains of India. Its outer fringe is under cultivation and differs but little from its contiguous Indian districts. Farther inland the soil is marshy and malarious, and is covered with thick jungle and forest. The dense forests of *sal* and *sisu* are of great economic value, and wild life includes elephants, tigers, leopards, bears, buffaloes, and birds of all sorts.

Rising above the plains is the Siwalik range, a continuous chain of low sandstone hills, broken by valleys. The hillsides are thickly wooded and the valleys well cultivated. Wild animals like the leopard, black bear and deer of many varieties exist and the pea fowl, jungle fowl, and game of all sorts abound. To this succeeds the foothills of the Himalaya, rising from 4000 to 10,000 feet high. Beyond this, rise the snowy heights of the Himalaya dividing Tibet from Nepal. Little is known of this region.

The Terai is the backbone of the economic life of Nepal. Rice, wheat, sugar cane, poppy and tobacco are grown in abundance and large quantities are exported. The Nepalese



KATMANDU, THE CAPITAL CITY

Above: Joodha Road, one of the new streets. *Below:* A typical street in the old city, showing numerous temples and, in the centre, a statue of the god, Kala Bhairab

Photos: Nepalese Legation

Government derives its main revenue from this region. In the higher altitudes, rice is grown by terracing. Wheat, pulses, potatoes, onions, garlic, and turmeric are also cultivated. Fruits of excellent quality, including European fruits such as apples, plums, pears, and peaches, are grown extensively. The natives of Nepal are mainly rice-eating, but they also eat goat's meat, buffalo meat, eggs, and game, and the dwellers in the plains eat fish.

Natural Resources. Nepal has extensive timber resources. *Sal*, *sisu*, conifers, and various other forest products are exported to India and are highly prized for their quality. The country is reputed to be rich in minerals. Copper, sulphur, and iron ores occur in the hills. Copper deposits lie close to the surface and are easily mined. Gold and silver are believed to exist in the north. Lack of accessible supplies of coal and poor means of communication have prevented the mineral resources

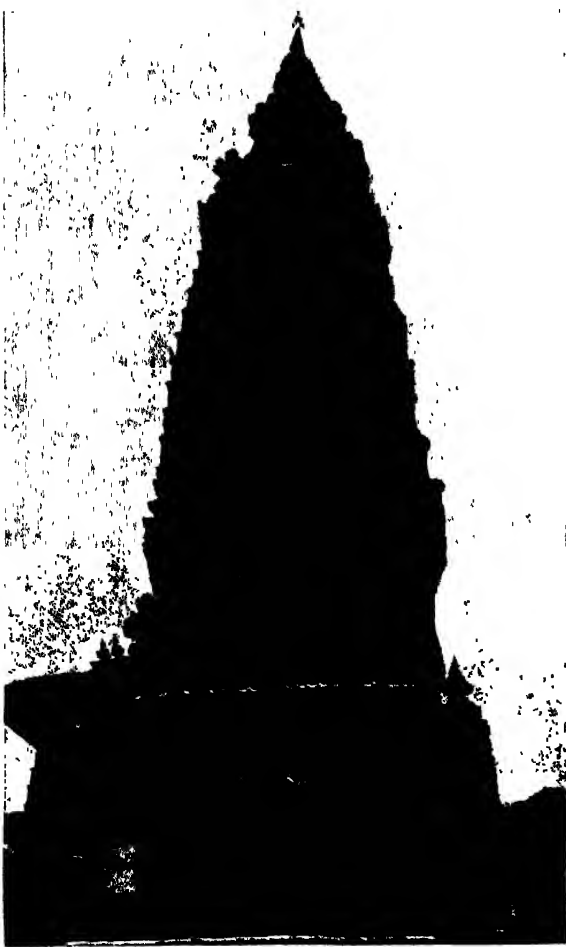
being exploited to any great extent. Lignite is found in the Teraï.

The People and Customs. The racial composition of the country is reflected in the variety of languages and dialects spoken by the people of Nepal. The official language, namely, the language spoken by the Gurkhas, is Parbatia or Pahari, the hill language, a variety of Hindi, which is derived from Sanskrit and written in Devnagri characters. The other languages are mainly dialects of Tibetan. The official religion is Hinduism. Buddhism flourishes side by side with it and has gradually

adopted many Hindu customs and much of the rituals. Both polyandry and polygamy exist. Among the Newars, who are Buddhists, marriage customs are less rigid than among the Hindus. The wife effects divorce simply by placing a betel leaf on her husband's pillow. Domestic slavery was abolished by official decree in 1923.

The ruling caste is the Gurkha. This Hindu race invaded the country in the late eighteenth century: their government is a military oligarchy. The State is independent but Indian influence is increasing.

The Himalaya



MOULDED BRICK TEMPLE OF THE GREAT BUDDHA
AT PATAN

Photo: Nepalese Legation

IT has frequently been observed that the evolution of peoples, religious, social, and political, has been primarily governed by geographical situation and climate; and in no part of the Earth's surface is this better exemplified than in the region where India is separated from the rest of Asia by the vast range of the Himalaya, extending from the Indus River on the west to the wild and practically unknown country east of Bhutan; a distance roughly equivalent to that between London and the Black Sea. The history of the Indian sub-continent has been much influenced by this stupendous barrier, which has controlled racial movement and affected climate.

Since before the dawn of history, India has been inhabited by peoples of Dravidian origin, upon whom burst wave upon wave of invasion from the bitter highlands of central Asia, when the restless wanderings of nomadic tribes, or shrinkage of pasture, or the attraction of rich lands and easy pillage, induced hardier stocks to try their fortunes in the south. First came the Aryan invaders. Out of the impact of these pastoral people on the existing ancient Indus civilization there slowly evolved a great social system and culture, and it is noteworthy that Hinduism spread more by absorption than by compulsion, so that by degrees practically the whole of the population was peacefully included in the fold, racial distinctions being to some extent maintained by the caste system.

There followed the numerous Mohammedan invasions, culminating in the rule of the Moghul dynasty. Very different were the methods of

the followers of the Prophet; to them tolerance was anathema, and where they absorbed at all they did so by forcible conversion to Islam. But conversion, however accomplished, implied complete acceptance into the brotherhood of the faith, and, therefore, a stronger nexus than the caste system.

Effect on Invaders. In both cases, however, it is to be noted that the hardships to which the invaders were exposed in crossing the Himalaya, and the difficulties of approach, tended to produce incursions which were military rather than migratory; conquest might be succeeded by settlement, but few of the settlers had brought their wives, and the great barrier was like a shut door behind them. They were cut off from their own people, and some of them undoubtedly married in the country. Everywhere in India there is evidence of these mixed marriages.

Practically all the invasions came from the north-west, round the flank of the Himalaya and through the narrow gorge of the Khyber Pass. The reason for this is that throughout the entire length of the chain there is not a single pass from north to south which can easily be crossed by large bodies of men. Few are less than 17,000 feet in height, and most are impassable in winter. This probably explains the absence of Mongolian invasions. Even the Mongol Horde, launched by that wonderful genius, Genghis Khan, never penetrated seriously into India, but preferred to invade Europe. The heat of the Indian plains may have had something to do with this decision, but the chief factor was certainly the Himalaya. Alexander himself, with all his prestige of conquest, had faced the horrors of desert marches in Persia rather than return through the Khyber; the passes farther east were never even considered.

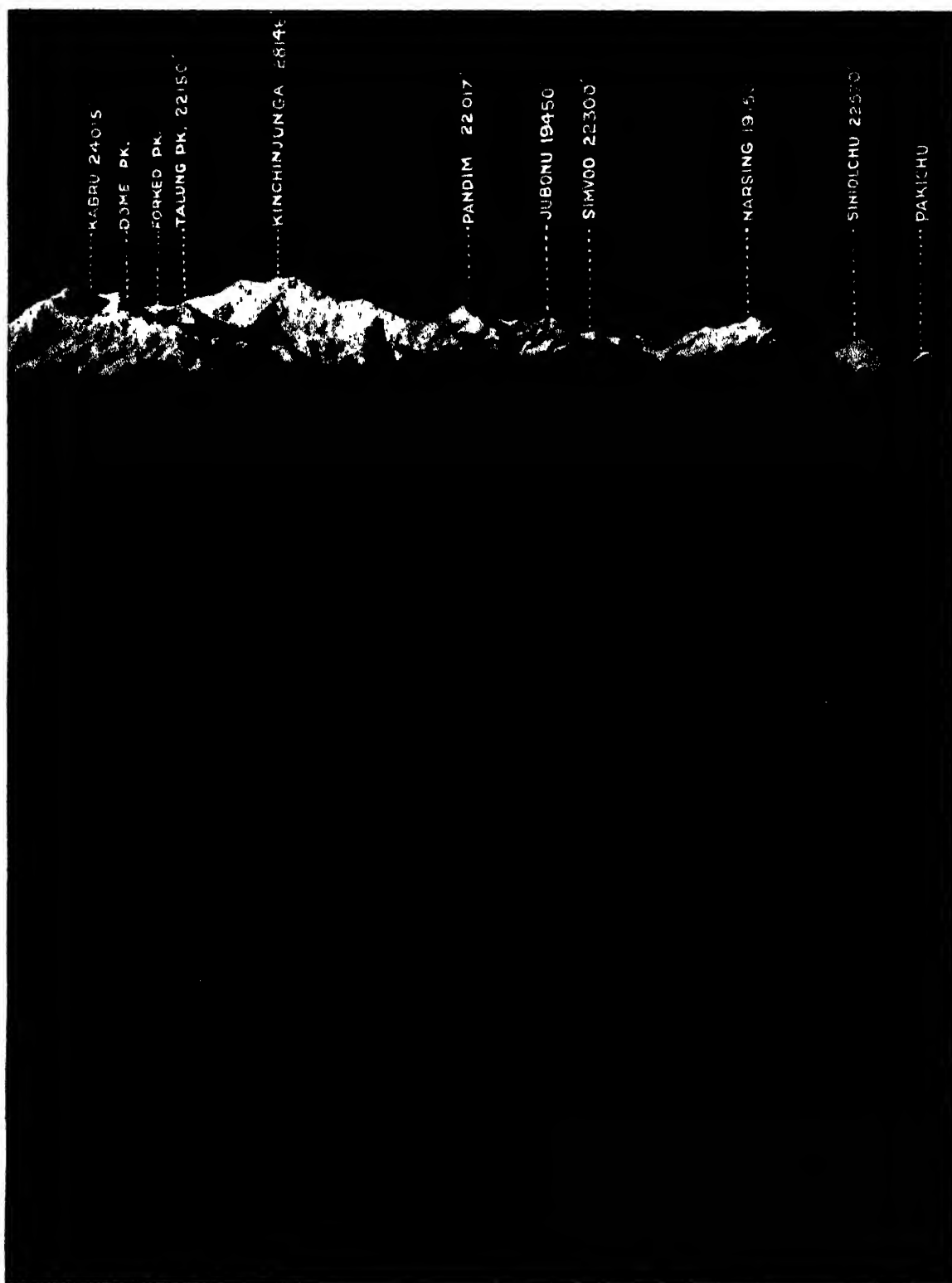
Geographical Features. We may now study the chief geographical and geological features of this immense chain; and the first thing to note is that the Himalayan range is not the true watershed between the central Asian plateau and India. Geologically speaking, it is of recent origin, and was caused by a great buckle in the Earth's crust which occurred in late Tertiary times. Only a few of the great rivers of India, such as the Ganges, have their source here; the Indus, the Sutlej, and the Brahmaputra rise in the region of the great Tibetan lakes, Mansarowar and Rakhas Tal, beyond the crest. They, and other rivers, are of much greater antiquity, and have main-

tained their courses, cutting their beds ever deeper and deeper as the mountains rose. Hence the terrific gorges which are a feature of their passage southward and which are often more difficult than the highest passes. The true watershed is, therefore, found in a series of smaller ranges (in places called the Zaskar) north of the main chain. The physical arrangement of the Himalaya can, in fact, be grouped into four zones: (1) the Tibetan plateau, (2) the Indus-Brahmaputra trough; (3) the zone of the high peaks and their outliers, and (4) the sub-Himalaya to the south.

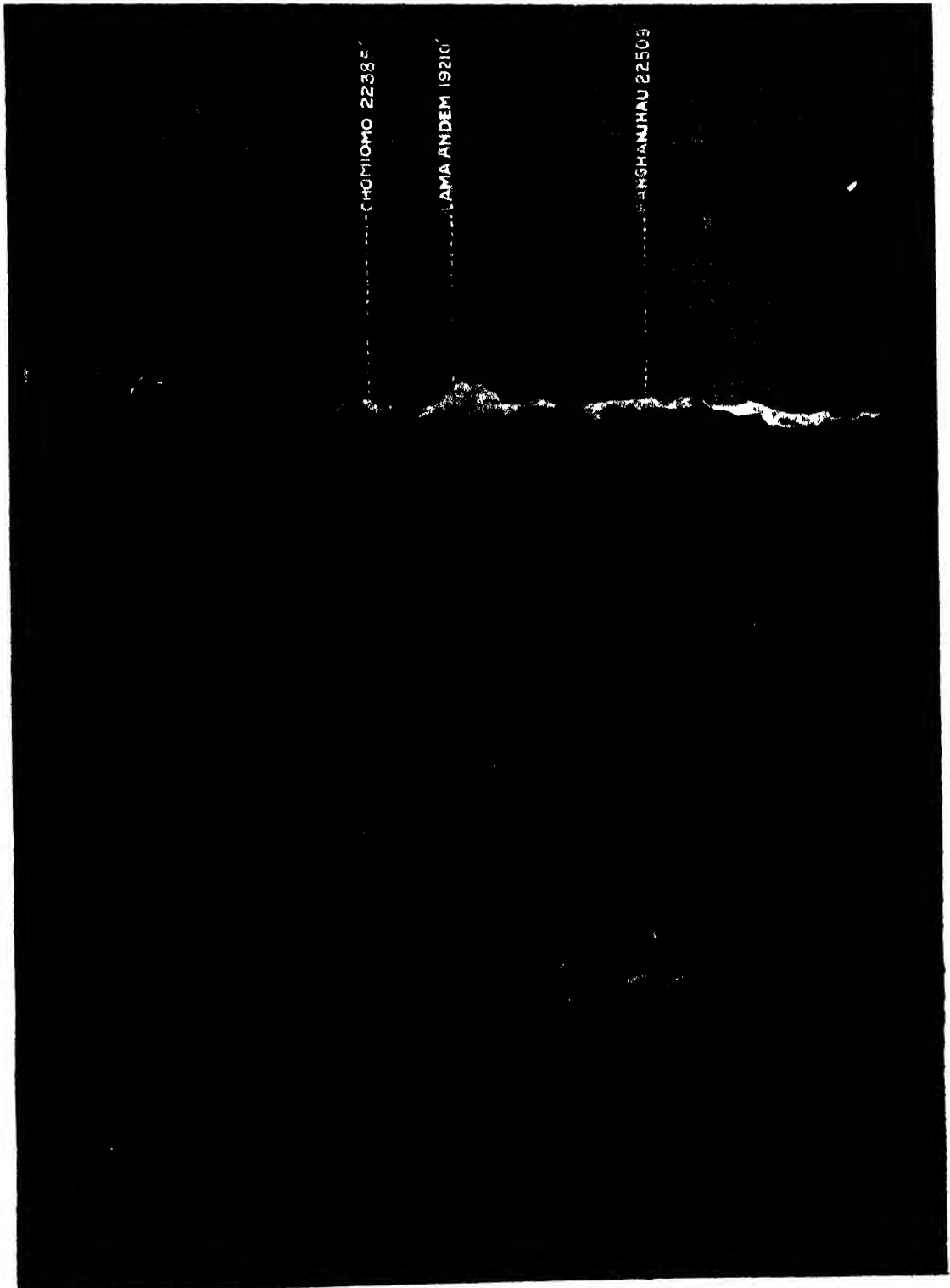
The Tibetan plateau zone consists largely of marine fossiliferous rocks, of the periods Lower Palaeozoic to Tertiary; the zone of the high peaks is of granite and crystalline schists, bordered by older, unfossiliferous rocks; and the outer part of the fourth zone is Tertiary, derived from detritus washed down from the north. The imagination is stirred by the discovery of marine fossils at 20,000 feet in the Zaskar ranges, and by the consideration that the summit of Mount Everest, 29,002 feet, is probably of sedimentary rock, laid down under the sea—that ancient ocean of "Tethys" which once covered most of the Indian Continent.

The Giant Peaks. The most prominent geographical feature is, of course, the tremendous array of lofty peaks along the entire chain; an array without a parallel anywhere in the world. The great mountains of the Mustagh and Karakoram ranges are excluded from this review because geographers usually agree that the Indus River should be considered the north-western limit of the Himalaya. Even so, there is no paucity of giants. Passing eastward from Nanga Parbat (26,629 feet) in Kashmir, we find Nanda Devi (25,660 feet), and Trisul (23,406 feet), in Kumaun; Daulagiri (26,825 feet) and Gosainthan (26,305 feet), in Nepal; Everest (29,002 feet), partly in Tibet and partly in Nepal; Makalu (27,790 feet) in Tibet; and Kinchinjunga (28,146 feet), partly in Nepal and partly in Sikkim. Others only slightly less high are to be found in prodigal confusion.

As may be imagined, the mapping of such a region taxed to the uttermost the resources of the Great Trigonometrical Survey of India, concerned as it was primarily with administrative and political requirements. A hundred years ago photogrammetric survey was unheard of; the ordinary theodolite and plane-table were the only instruments available, and men had to be found who could carry and work them on the enormous ridges of the Himalaya.



THE
A panorama of the Kinchinjunga Range as seen from
Photo: Sport



HIMALAYAS
Darjeeling, showing the altitude of the chief peaks
and General

It was work for highly-trained mountaineers, in an age when mountaineering had hardly begun. In the circumstances, the accuracy of the results is amazing—a testimony to the calibre of the early pioneers. The unexpected was always likely to happen; for instance, there is a good story of how a Bengali computator rushed excitedly into the Surveyor-General's office in 1852 and said, "Sir, I have discovered the highest mountain in world!" He had been working out the results of observations, made from a number of stations in India, of a distant and therefore not impressive peak; but the figures—29,002 feet—were unassailable, and Kinchinjunga was deposed from her pride of place. In modern times considerable assistance has been afforded to the department by mountaineering expeditions, which have been able to survey in detail the environs of Nanga Parbat, Nanda Devi, and Everest.

Passes. Since very early times men have found their way over the high passes along the chain, such as the Kangwa La (15,500 feet) on the Hindustan-Tibet road through Simla; the Mana (18,000 feet) and Niti (16,570 feet) passes in Garhwal; the Unta-Dhura (17,270 feet), Lampiya Dhura (18,600 feet), and Lipu Lekh (16,750 feet) in Almora; and the Jelap La (14,900 feet) in Sikkim. The sole incentive for these hazardous crossings was trade with Tibet, which can supply salt, borax, wool and barley in return for rice, wheat, cloth and general haberdashery. None but the hardy Mongolian hillmen of the borderland could carry on this business, and every rough track across the passes is white with the bones of men and pack-animals, caught by sudden blizzards. No considerable army has ever forced a passage.

High mountain ridges are not the only barrier; for a long distance east and west along the southern flanks of the Himalaya stretches a belt of sub-tropical jungle and swamp, generally called the Terai; the home of elephant, tiger, panther, bear and many kinds of deer; worse still, of the anopheles mosquito. This is one of the most deadly regions in the world, uninhabited save by a few unhappy tribes whose sunken features and enlarged spleens tell their own tale. Roads and railways have been driven through this belt, but many years must pass before it yields to drainage and reclamation.

Even in the time of the Moghul dynasty the rulers of India sought escape from the summer heat of the plains. The Moghul

emperors found a perfect climate in Kashmir, and the beautiful gardens and buildings by river and lake near Srinagar are still-existing testimony to their care.

The States and Peoples. It is only possible here to give a brief abstract of the political divisions and the peoples of the Himalaya. First, on the west, comes the State of Kashmir and Jammu, governed by a Jat dynasty maintained by the British after the break-up of the Sikh Empire of Runjit Singh. The Maharaja of this State, and the ruling classes, are, therefore, Hindus; but 74 per cent of the population is Mohammedan since the fourteenth century, when a Mohammedan ruler forcibly converted them. In the higher ranges of the State will be found races of Indo-Chinese type, speaking dialects akin to Tibetan and professing Buddhism. In Jammu Hinduism predominates.

The next section eastward is part of the Punjab Province, and includes the district of Kangra and the group of feudatories now known as Himachal Pradesh. Here, and again eastward, as far as Nepal, the people are nearly all Hindus.

Next on the map comes the Himalayan section of Uttar Pradesh (the former United Provinces)—the Kumaun Division. In some respects this is the most interesting section of all, for it contains a region famous in Hindu mythology. Here were enacted the last scenes in the Epics which every Hindu reads, and here are the great centres of pilgrimage—Hardwar, Gangotri (source of the Ganges), Badrinath and Kedarnath—more important in some ways than even holy Benares. It is at this point only that Hindu influence was extended right across the Himalaya, to the Lakes of Mansarovar and Rakhas Tal and the famous Mount Kailas, sixty miles across the Tibetan frontier. That was due to the energy of the great Hindu reformer Shankarachariya, who, more than any other man, was responsible for the decline of Buddhism in India and the rehabilitation of Hinduism. According to him, Mount Kailas was the birthplace of the god Shiva, and the headquarters of the Hindu Pantheon. The greatest pilgrimage a Hindu can perform is to Kailas, passing on the way the sources of holy Ganges. Every year some 60,000 pilgrims attempt at least part of this pilgrimage, though few can reach Kailas; the hardships endured in reaching Gangotri and Badrinath are sufficient.

Brahminism is immensely potent in this

section of the Himalaya, and the Mohammedan iconoclasts of the Moghul regime never obtained a real footing. Later, Nepal extended her power over this region, till dispossessed by the Gurkha Wars of 1815. In the northern mountain valleys there are considerable numbers of Bhotias, who profess Buddhism but have adopted a good many Hindu customs. These

right, beside the Rajah, with whom he claims brotherhood.

Across the Kali River to the east begins the independent kingdom of Nepal, which runs for 500 miles towards Sikkim. This is still practically *terra incognita* owing to the provisions of the Treaty of Segowli, in 1815, when at the conclusion of the Gurkha War we pro-



THE ROOF OF THE WORLD

Ruined shrines and temples in the mountain fastnesses of the Himalaya

Photo: Keystone

are the men who carry all the trade between India and Tibet, mostly on the backs of sheep and goats.

There is one race—if it can be called a race—which is worth a passing mention. The Rajis, as they are called, are found in very small numbers in the forests of the western Kumaun Division. They are very shy and furtive, never construct houses, and are only very occasionally met with. Yet once a year, on the occasion of a certain Hindu festival, they appear at Askot, the family headquarters of the old Chandrabansi rulers of Kumaun, and one of their numbers takes his seat, as of

misised that there should be no British infiltration into Nepal. This undertaking has been strictly kept on both sides, though Britain, India and the United States now have Ambassadors at the capital—Katmandu. The ruling classes are Hindus, but about half the population is Buddhist. To it the generic name of Gurkha has been given, and from these men used to be drawn some of the best troops in the Indian Army—an arrangement which had been permitted since 1815. It should always be remembered that this little country provided many thousands of men during the two World Wars, that it sent troops to our aid during

the Indian Mutiny; and that it has preserved an unbroken tradition of friendship with us since we fought out our quarrel nearly 140 years ago. The founder of Buddhism came from Nepal.

Passing still farther eastward, we come to the Indian district of Darjeeling and the State of Sikkim. The latter contains some of the finest mountains in the Himalaya, and is on the direct trade route between India and Lhasa. The Indo-Chinese type and the Buddhist religion are here predominant. Every zone of climate can be traversed, from the tropical, malaria and leech-infested jungles of the Teesta Valley, through the orange-growing belt to the pines and ultimately the glaciers of the high hills. The people are gentle and very charming; they include the fast-disappearing race of the Lepchas, who inhabit the Talung Valley and appear to have a genius for botany. The hardy and expanding Nepalese are beginning to create an immigration problem in a country which cannot support a large population. An Indian Resident lives at the capital—Gangtok—and is responsible for relations with Tibet as well as Sikkim.

Sikkim is separated from the independent Buddhist State of Bhutan by a strip of Tibetan territory—the Chumbi Valley. Bhutan is even less known than Nepal. Eastward, and beyond the Bhutan frontier, the mountains are gradually diminishing, as the Himalayan uplift ceases—perhaps 400 miles on. Here are found races of Tibeto-Burman origin: Akas, Daflas, Miris, and Abors, savage tribes with whom little intercourse is possible, save in the form of punitive expeditions following raids on the plains. The very nature of the country is a defence to the north-east frontier, for no considerable body of troops could possibly invade through its confused valleys with their dense forests and hostile inhabitants.

Tibet. So much for the southern face of the Himalaya. Of the northern there is not much to be said, except that Tibet occupies the greater portion; that last stronghold of medievalism, isolated on the "Roof of the World" by its very height and the desperate hardships of its conditions. The country is

governed by the priestly rule of the Dalai Lama and the Tashi Lama, and professes a Buddhism which differs considerably from that which Gautama preached. Europeans were most strictly excluded from the country before Sir Francis Younghusband's Lhasa Mission of 1904-5, which marked the beginning of friendly relations between Tibet and Britain. In 1950 Tibet was invaded by Communist China and, in the following year, was forced to sign an agreement making China responsible for her external affairs. To-day she is virtually a province of China.

Climate. There are, naturally, immense differences of climate from end to end of this vast chain of mountains; they depend chiefly on the distribution of rainfall from the Bay of Bengal and Arabian Sea monsoons, but also to some extent on the presence or absence of forests. Roughly speaking, it may be said that the eastern half—especially Bengal and Assam—bears the full brunt of the Bay of Bengal monsoon. Here, too, is to be found the richest vegetation and a damp, enervating climate which is reflected in the physique and character of the people of the plains. The Arabian Sea monsoon is far less important in northern India than the Bay of Bengal variety, so that the western half of the Himalaya is comparatively dry, and the climate comparable with parts of Europe. These conditions have probably been accentuated by the extensive cutting down of forests which has gone on for centuries. There is evidence that in the distant past the now arid countries of the north-west frontier were densely covered. In this region the people are active, vigorous and determined. North of the mountains the climate is uniformly dry.

Perhaps enough has been said to explain how the history of India has been affected by this unique barrier of mountains. Indeed, since the Mohammedan invasions ceased about the sixteenth century, subsequent pressure has come almost entirely from the sea. That is how the fortunes of England came to be linked with those of a country which might, but for the Himalaya, have become part of the empire of the Czars.

SOUTHERN ASIA AND INDONESIA



Malay Archipelago

THE Malay Archipelago is a group of islands lying to the south of eastern Asia, bounded on the north by Burma and Thailand, the peninsula formed by Malaya, Indo-China, and the south-western part of China proper; on the west by the Indian Ocean; on the east by the Pacific Ocean; on the south-

east by Australia; and on the south by an almost unbroken expanse of ocean stretching to the south Polar regions. The islands are situated between 6 degrees north and 11 degrees south latitude, and 95 degrees and 141 degrees east longitude. The major part of the Malay Archipelago nowadays belongs to the Republic

of Indonesia. It consists of five large and numerous smaller islands. The group of large islands is known as the Great Sunda Islands: Sumatra, Java, Celebes, Borneo, and New Guinea. Of these, only the first three are entirely Indonesian, Borneo being partly British and New Guinea partly British and still partly Dutch.

In the extreme northern part of Borneo is the British Crown Colony of North Borneo. The territory itself was under the jurisdiction of the British North Borneo Company, and formed the last remaining example in the British Empire of rule by a Chartered Com-

pany. This Colony now includes the island of Labuan, formerly part of the Straits Settlements, and abutting on the southern border is the State of Brunei, previously one of the Unfederated Malay States. Contiguous on the South of Brunei is the British Crown Colony of Sarawak. The eastern part of New Guinea is trustee territory administered by the Commonwealth of Australia.

Another group of smaller islands is known as the Little Sunda Islands, and of these the larger and better known are Timor (the shark-infested sea around it is dreaded by airmen), Flores, Sumba, Sumbawa, Lombok, and Bali



ON THE ISLAND OF BALI

1. Dancing girls at a religious festival. 2. A Bali girl working at a primitive loom. 3. An animal casket used in high caste cremations

Photos: Nederland Line



JAVANESE SHADOW PUPPETS

Unlike the marionettes of Europe the figures are operated from below, not suspended on strings. The subjects of the shadow plays are principally Hindu religious tales. 1. Wayang Kulit puppet of the god Karna. An example in buffalo hide of the first phase of Javanese puppet development. 2. Wayang Kerutji puppet of Damar Wulan, historical hero. Wooden puppet of the second phase. 3. Wayang Glung puppet of Menak Gingga, enemy of Damar Wulan. Wooden doll of the third phase. 4. Wayang Golek puppet of the warrior hero Bima. A rounded doll with fabric frock. 5, 6 and 7. Masks of demon king, queen and demon warrior used in the Topeng dances.



THE VENICE OF THE EAST

Channel between Noordwyk and Ryswyk in Jakarta (Batavia)

Photo. *Nederland Line*

—the latter the ultimate goal of tourists to the Far East. These were all entirely Dutch with the exception of Timor, of which the eastern and northern parts belong to Portugal.

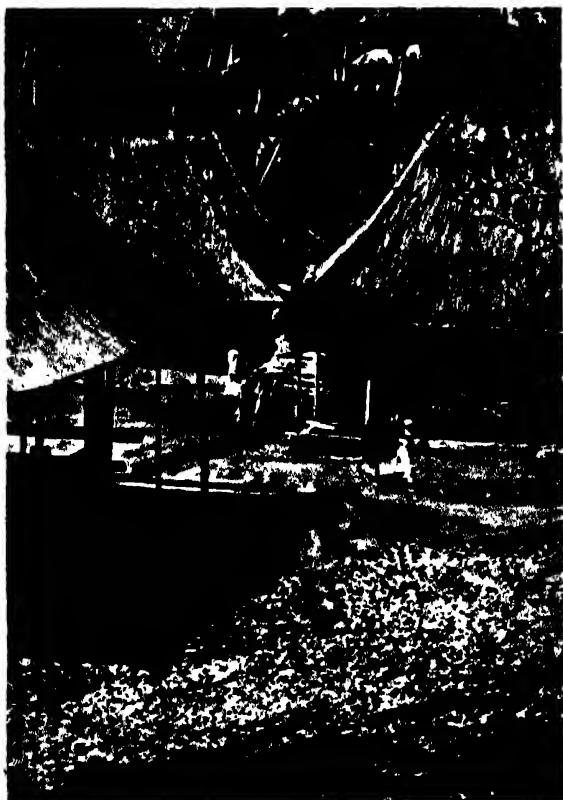
Another group belonging to the Malay Archipelago is the Philippine Islands, owned by America until 1946. Finally, there is a large and important group of smaller islands, known collectively as the Moluccas, which lie between Celebes, New Guinea, and Timor.

The Malay Archipelago, variously known as the East Indies, Malaya, and Indonesia, appears, when one looks for it on a map of the world, to be rather insignificant. This idea will be the more easily dispelled if we compare some of the islands forming the Archipelago with better-known countries in other parts of the globe. For example, Java, with Madura, is about the same size as the State of New York. Sumatra and its adjacent islands may be compared with California in size; while Celebes with its adjacent islands is the same size as New Zealand and Ceylon together. The whole island of Borneo is as large as Cape Colony, and the former Dutch part alone is equal in size to France. New Guinea is as large as Japan. In addition, there are the innumerable groups of smaller islands, such as the Little

Sunda group and the Molucca Islands. Altogether Indonesia has a land area about half the size of Europe without Russia.

In Vast Shallow Seas. These scattered members of the Indonesian Republic cover, from east to west, a distance of 3000 miles, and from north to south a distance of 1250 miles. The journey by sea from Sabang, north of Sumatra, to Amboina in the Moluccas covers more than the width of the Atlantic Ocean between England and America. The seas separating the islands are mostly shallow; and if one could raise the sea bed on which the Archipelago stands just 100 fathoms, it would form a whole with the land masses of Asia to the north and of Australia to the south-east, leaving the various deep pockets and channels in the ocean bed to form some large and many smaller lakes.

Volcanoes. All the islands, except a very few of the smaller ones, are hilly and mountainous, and extremely volcanic; a fact which explains the fertility of the soil, as the volcanic ejections lie in great depth all over the region, being spread by the rivers and heavy rainfalls to the plains and valleys as well as clinging to the upper slopes of the hills and mountains. A complete chain of volcanoes, both active



A BATAK VILLAGE ON THE ROAD TO ALLAS VALLEY

Note the typical thatched houses of the native settlements

Photo: *Nederland Line*

and extinct, can be traced through the islands from the northern point of Sumatra, through Java and as far as Timor, bending northward again through the Molucca groups. Both in Java and Sumatra there have been serious eruptions in the last seventy years, the most notable being those of Krakatoa in 1883. In Borneo volcanic activity is almost entirely absent, making this island, as compared with Sumatra and Java, of a far more stable nature.

In Java the mountainous regions consist of young volcanic rocks which, in the warm humid climate, disintegrate rapidly, providing the richest possible soil for growing plants. The mountain lands are therefore covered, up to a height of 1500 metres, with beautiful and healthy plantations; and from this elevation right up to the summits, at about 3000 metres, are found luxuriant forests. Sometimes, on the cleared upper slopes, there are vast plantations of coffee, tea, corn and European vegetables.

Between the central mountain ranges and the coastal plains is a narrow strip of hill land which, in Java, is nearly always of a rich volcanic nature; and on this island it would

be difficult to find a spot, however small, that was not being used for a culture of some kind.

Natural and Cultivated Products. Apart from the *sawas*, or irrigated rice fields, which are very extensive, we find dry farming pursued on an almost equally large scale. Fruit trees and other plants are to be counted by the million, and among the crops may be mentioned, next to tea and coffee, rubber first of all, then cassava, pea-nuts, tobacco, and corn.

Where the hill lands consist of Tertiary marls and limestones, they support little else than extensive teak forests. The alluvial lowlands between the hills and coast are, in Java, almost entirely taken up by agriculture: in the main the growing of rice and sugar cane, and, to a lesser degree, the cultivation of corn, tobacco, cassava, batatos (sweet potatoes), pea-nuts, coconut palms, kapok trees, some indigo plants, and, finally, native vegetables and fruits.

The island of Java is the "capital island" of the Indonesian Republic and Jakarta (Batavia)



A BALI TEMPLE

One of the Padu Raksas, which literally translated means "Temples with closed gates"

Photo: *Nederland Line*



THE COUNTRY SCENE

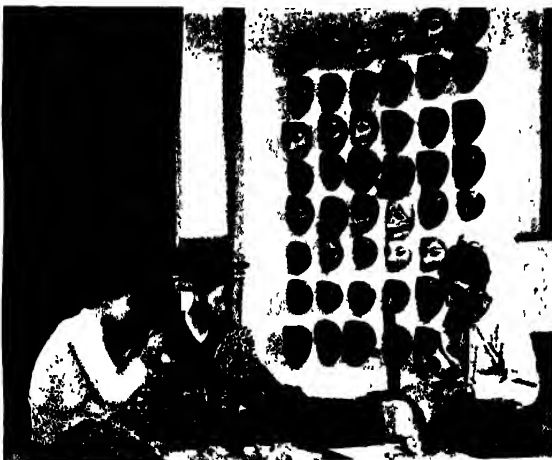
Rice fields of Java against a background of mountains

Photo: Orient Line

on its north-west coast is the seat of government. There is, in the outer islands, far less ground under cultivation, although on a percentage basis, extensive commercial crops, such as Deli tobacco, rubber, tea, coffee and oil palms, turn the scale, as do coconut palms and—owing to less intensive irrigation—dry rice growing. Vast stretches of primeval forest and grasslands are still found in the hill country as well as in the plains. Since only small areas

of the "Outer Possessions" show the same young volcanic rock formation, and as the mountain ranges of Sumatra, Borneo, and Celebes consist, for the most part, of less fertile Primary rock, the soil of these islands is generally speaking not so rich as that of Java. This is the explanation both of the lesser area under cultivation and of the sparser population of these islands. Whereas Java and Madura have approximately a density of 800 per square mile, Sumatra has only about fifty to the square mile. With the growth of the commercial industries, particularly in Sumatra, many thousands of Javanese used to be shipped to this island to work as estate coolies in rubber, tobacco and oil palm cultures. In fact, almost the entire labour force employed by the large companies on the island came from Java.

Mineral Resources. The East Indian islands are not only rich in possessing a soil which yields them a wide range and variety of crops, but nature has plentifully provided them with great quantities of mineral wealth. The Primary rock formations in the outlying possessions produce tin, gold and silver. The younger volcanic rocks produce copper, lead, and zinc; platinum and diamonds are found on Borneo. Coal, lignite, and oil are found on almost all the large islands. On Celebes and the adjacent islands are found vast quantities



A MALAYAN HANDICRAFT

Artifceers at work on the masks which are one of the many products of native handicraft

Photo: Nederland Line



THE NATIVES AT WORK

Above: Toradja women weaving in Celebes. Below: Girls painting payong (sunshades)

Photos. Nederland Line

of iron ore, containing nickel. All this wealth of minerals and soil crops makes the old and well-known saying "the wealth of the Indies" come true.

The tropical, oceanic climate, with its regular temperature, calm atmosphere, heavy rains, and great moisture, fosters the growth of many tropical plants of great agricultural value. From May to August is the season of the little rains, while the heavy rains, bringing sometimes very bad floods in their train, occur between November and February. Only on some of the islands to the extreme south-east of the Archipelago is a perfectly dry season, with the accom-

panying withering of vegetation, experienced in the coastal plains; but there are heavy rains in the highlands which permit the irrigation of the high slopes of the valleys. The most impossible-looking slopes are irrigated for rice.

The Terraced Rice Fields.

Not far outside Pematang Siantar, a town in Sumatra on the road to Lake Toba, one passes through vast stretches of irrigated rice fields. The ground slopes gently upward away from the road on both sides, and the valley is here about a mile wide. As seen from the road, the rice fields resemble a series of gigantic steps, which occur every hundred yards or so, each one a few feet higher than the next. Very soon the steeper hills are reached, the terraces now following their contours, and the steps become higher, the individual flooded fields, each with its low mud bank to retain the water, narrower. Some distance farther, the road, after having climbed to 4000 feet, drops sharply down and deep clefts and valleys are formed, the sides of which are again built into a series of steep terraces, irrigated from some mountain stream above, the water being carried along channels and runnels, or sometimes through hollowed-out coconut palm trunks. Everywhere, where the terrace takes its drop

to the next level, one sees sticking through the low mud banks the bamboo shafts through which the water flows in a steady stream onto the terrace below. This is repeated again and again until the lowest levels are reached or until another stream is encountered which can be tapped for water in a like manner.

Native Peoples. When speaking of the Malay Archipelago, one of course assumes that the main native element of these islands is the Malay peoples. This, however, is not so. Many different races are to be found scattered throughout these islands. On Java and Madoera are found mainly the Javanese,

Sundanese, and Madoerese peoples, the latter noted for their loyalty and bravery. On Sumatra are found the Achenese, a very warlike people who held out longer than any of the other native races against the Dutch when the latter first colonized the East Indies; the Bataks, living in the highlands; and on the west coast, with Padang as the principal town, we find the true Malays. Of the Javanese transported to Sumatra to work on estates, many remained to settle down and intermarry with the indigenous population.

The prevailing religion all over the East Indies is Islam, and to it the natives attach tremendous importance.

Mode of Life. The mode of life of the inhabitants of these islands is simple in the extreme. Their staple food is rice, and of this there is always enough, as ground for planting is always to be had. Then it is customary for every native to own a plot of land in the *kampoeng* where he lives, on which will be growing a few dozen banana and other fruit trees, and a number of coconut palms. The latter are found in every part of the Archipelago, on the shores and on the plains, in the interior, on the hills and mountain plateaux—everywhere one goes, the palm tree is predominant.

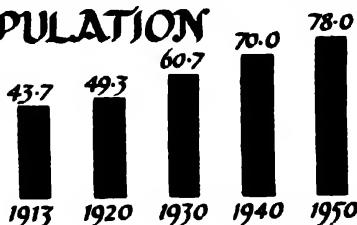
These trees are the natives' "general stores." From the sap, palm wine called *arrack*, vinegar, yeast and sugar are prepared. The nut is eaten either raw or cooked, and when fully mature has medicinal properties. The fully ripe kernel yields palm oil. From the shell can be made spoons, cups, plates, and other vessels, and the fibres can be made into mats, ropes, or brushes. The young leaf buds are eaten as a vegetable, and the larger mature leaves are plaited into baskets and also used for thatching. The wood of the stem is hollowed out for pipes or aqueducts and also used for rough building purposes, and the dried flesh of the nut, or copra, from which the oil is extracted, is in increasing demand for export.

The oil from the coconut is also extensively used by the native women for their hair, and is, moreover, popular in native cooking.

Another useful and universal palm is the *Areca* or Penang palm, which produces the betel nut. The leaves of the *Nipa* or Dwarf palm, which grows on the sea shore or in low marshy situations, are largely used for thatching native buildings, and the broad leaf, when sun-dried, is called *atap*. Among the fruit trees, too numerous to list completely, mention must nevertheless be made of the *Durian* tree.

REPUBLIC OF INDONESIA

POPULATION



RACIAL DISTRIBUTION

in percentages

Natives 97.3

Others: Chinese 2.1, Europeans 4.1, Miscellaneous 1.9 } 2.7



PRODUCTION 1950

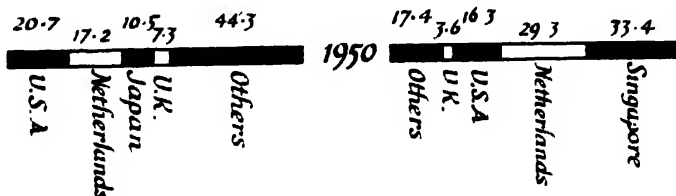
in thousands of metric tons

Petroleum	Rice	Maize	Rubber	Palm Oil	Tea	Coffee	Tin	Cinchona
5,414	12,649	2,369	523	126	35	35	33	5.6

FOREIGN TRADE by Countries

in percentages of Totals

Imports
3,064
million
Rupiahs



Exports
4,664
million
Rupiahs



TYPICAL SCENERY ON THE ISLAND OF BALI

Photo: Hamburg-America Line

The native owners of these trees consider themselves rich men, as the fruit is counted as the greatest delicacy obtainable and sells for very high prices.

The native, living amid the free gifts of a bounteous nature, leads a very pleasant life, in which work does not play a large part. Indeed, there is little need for him to work. Does he wish to build a house? The materials which nature provides for him lie ready to hand, and he will always find enough neighbours to help him build. Bamboo there is in plenty, and the tough and unbreakable *rattan*, which is used in place of string, has only to be gathered from the nearby jungle. Many native houses have bamboo-plaited walls which, when plastered over with a mixture of glue and white-wash on paper, afford perfect protection against wind and rain. These houses are usually built upon a forest of poles and the front door is reached by a somewhat perilous ladder with steps set widely-apart, and made of bamboo struts fixed cross-wise between two large bamboo poles.

Life in a native village usually begins at daybreak. Standing in the well-swept clearing in front of any of the huts or of the more pretentious houses, one can get no more than a glimpse of another habitation through the gleaming green of thickly-planted banana and other fruit trees; but the sense of the nearness of one's neighbours is always there, apart from the sounds of movement and speech, the cry of a child, the murmur of the morning prayer. A nearby stream or river makes bathing, which is indulged in by both men and women alike, an easy enough matter. They keep on the *sarong* worn during the night, and bathe in this, exchanging it for a clean one when they emerge from the stream. The day's work consists, for the women, in tidying the house and preparing food; for the men, either work in the rice fields



A TEMPLE OF JAVA

The Borobudur Temple showing the characteristic architecture and decoration of the Javanese style

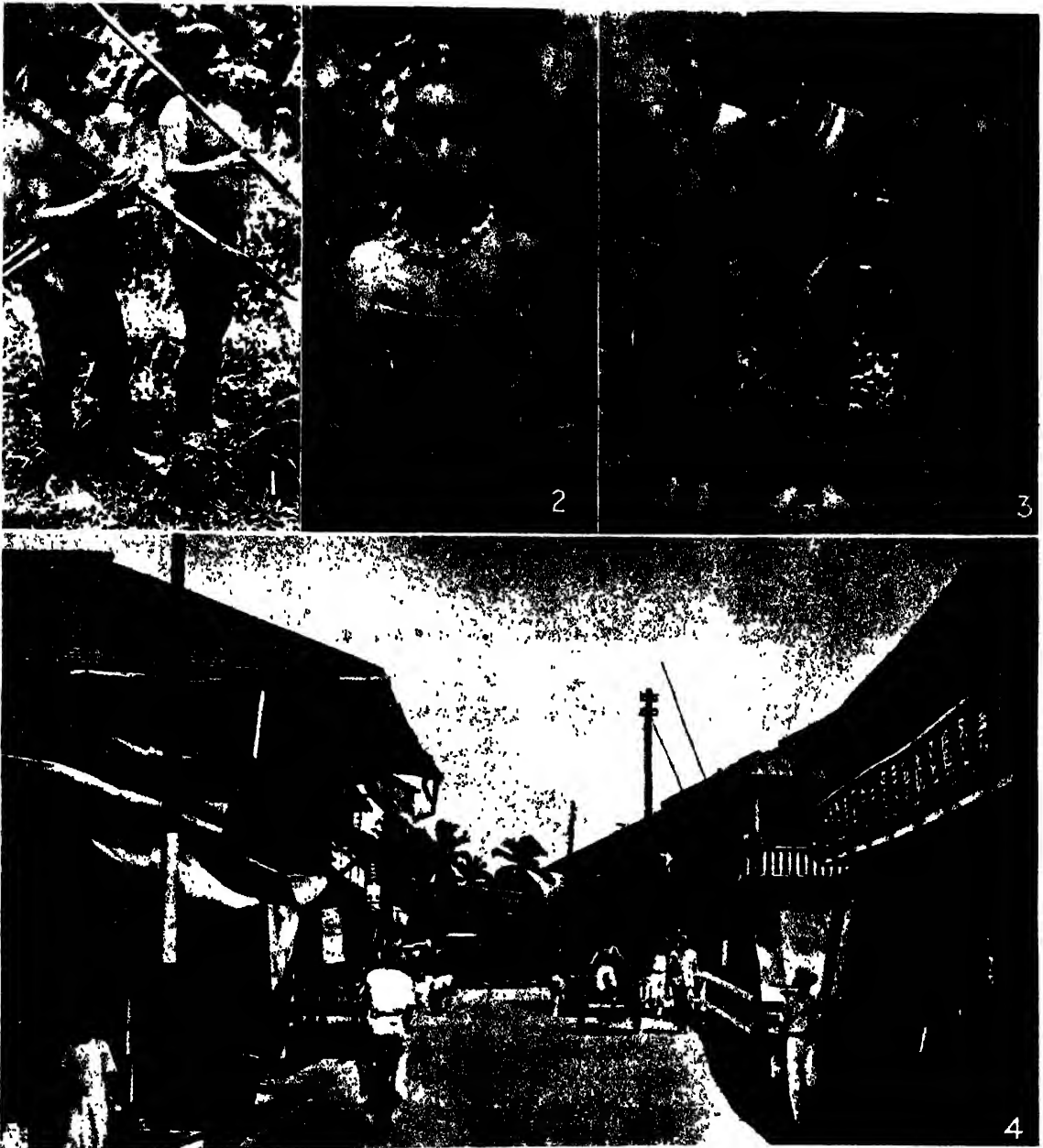
Photo: Orient Times

or fruit gathering, the killing of a chicken or two for the pot and, if there are no odd jobs to do, a quiet smoke and chat under the shade of a tree.

Dress costs very little; a few cotton *sarongs*, a few pairs of shorts and a singlet or two comprise the male's wardrobe, and the women, who also wear *sarongs*, cover the upper parts of their bodies with a sort of tunic, made mostly of cheap cotton material. Although they go

bare-foot quite a lot, the native prefers to wear shoes, but the kind worn cost a mere trifle. They are just wooden blocks, about an inch thick, shaped as the sole of a shoe, with the heel rather thicker than the sole. To the front is fastened a leather or cloth strap which fits over the toes and keeps the clogs from falling off the feet.

Political Troubles. Indonesia was occu-



LIFE AND PEOPLE OF BORNEO

1. Two of the Rumanau tribe, the dwarf race inhabiting parts of British North Borneo. 2. A Dayak girl of the Barani River tribe. 3. Native girls wearing the skirts and cheap foreign necklaces which are still used for barter. 4. The Chinese quarter of Singhawang in west Borneo

Photos: *Wide World*; *Photographic Publications*; *Fox*

pied by the Japanese during the 1939-45 War and eventual liberation gave strength to an active national independence movement campaigning for a Republic of Indonesia. Unfortunately the Japanese, when they surrendered, allowed their weapons to fall into the hands of fanatical nationalists. These used them against the Allies who arrived soon afterwards to receive the Japanese surrender and restore law and order. As Holland was not yet in a position to deal with the situation British and Indian troops were originally sent, but apparently determining to get independence at any cost the rebel Indonesians started a violent and unprovoked warfare.

The fight was carried on by the Dutch who from the first were in favour of Indonesian

independence as long as Indonesia was capable of self-government. In 1946 the Republic—which at that time consisted of Java, Madura and Sumatra—was recognised by the Dutch. A provisional agreement was drawn up whereby the Republic of Indonesia and the remainder of the East Indies were to be formed into a United States of Indonesia with a full democratic constitution. The United States of Indonesia and the kingdom of the Netherlands went further to form a Netherlands—Indonesian Union presided over by the Queen, and whose aims were to be the promotion of cultural and economic relations between the two states. In 1949 yet a further stage was reached with the formal unconditional transfer of sovereignty from the Netherlands to the Republic.

Malaya

THE Malaya Peninsula or Malaya has, for its northern boundary, Thailand; to the west is the Bay of Bengal; to the south the island of Sumatra, from which it is separated by the Straits of Malacca; and to the east the China Sea. Before the war it comprised the Straits Settlements, a Crown Colony consisting of the town of Singapore, Malacca, Province Wellesley and the island of Penang; the Federated Malay States, a British protectorate; and the Unfederated Malay States, under British protection but each ruled by its own Sultan with the help of a British Adviser. The total length of the Peninsula is about 870 miles, and in width it varies from 45 to 210 miles. Its area is roughly 50,000 square miles.

After the Japanese occupation (1941-1945) a scheme was proposed in 1945 for Malaya to enable her to achieve self-government within the British Empire and to preserve the nationalism which was fast disappearing due to foreign immigration. After some preliminary experiments a re-organisation was made by 1948 to establish the Colony of Singapore (including the island of Singapore, Christmas Island and the Cocos Islands); the Federation of Malaya to include Perak, Selangor, Negri Sembilan and Pahang (the former Federated Malay States) and the five States not hitherto included in the Federation, viz., Johore, Kedah, Perlis, Kelantan and Trengganu, as well as the former Settlements of Penang (including Pro-



GOVERNMENT OFFICES, PENANG
Photo: Malayan Information Agency

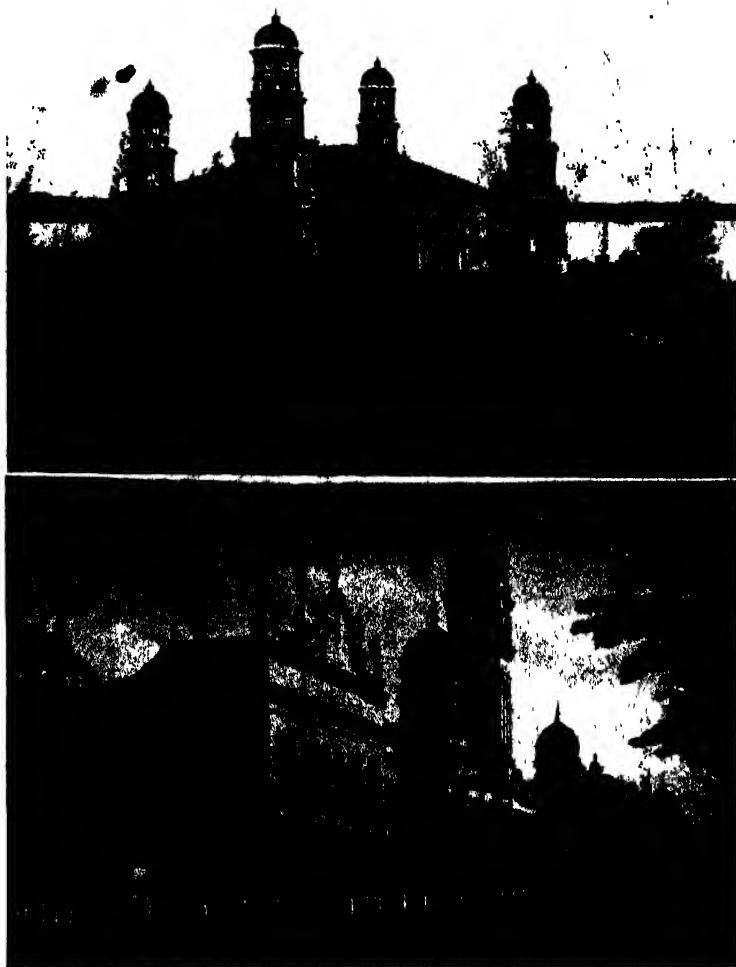
vince Wellesley) and Malacca; the Colony of North Borneo (including Labuan); the State of Brunei (hitherto included with the unfederated States); and the colony of Sarawak. The whole area is administered by a Commissioner General, with a Governor of the Colony of Singapore and a High Commissioner of the Federation of Malaya; each constituency has an Executive Council and under it a legislature embodying many democratic features and evolving steadily towards self-government.

Singapore. The capital city of the Crown Colony of Singapore is of paramount interest to the British Commonwealth. Sheltered by two jutting arms of the State of Johore to east and west, it stands guard over the narrowest part of the Straits of Malacca, with the mainland of Sumatra to the south. It is of vital strategic importance as a great naval base and fuelling station for the fleet and air arm, and owing to its position dominates the East. It is the most important port between Suez and America, for every ship sailing to or from Europe and the East calls in at Singapore. It is in no sense a Malay town and the European influence is dominant, although from 70 to 80 per cent of the inhabitants are Chinese.

The whole island on which Singapore stands is only 27 miles long by 18 miles broad. It is flat, on the whole, with but one real hill and that is not more than 520 feet high. This hill is called Bukit Timah or Tin Hill.

In the year 1819 Sir Stamford Raffles founded the trading settlement which is now the free port and city of Singapore, and by a treaty signed with the Sultan of Johore, the entire island was ceded to the East India Company.

The Federation of Malaya. Of the former territories of the Straits Settlements, but now included in the Federation of Malaya, Malacca is one of the oldest European settlements in the



MALAYAN ARCHITECTURE

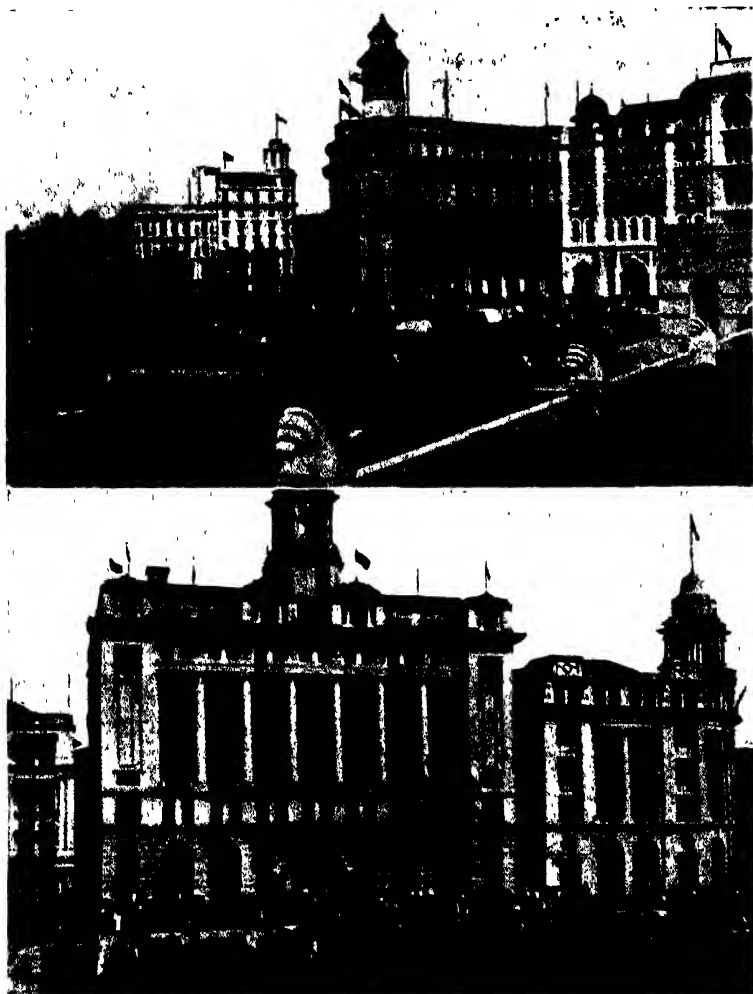
Above: Sultan Abu Baba's mosque at Johore Bahru.

Below: Government buildings at Kuala Lumpur

Photos: Malayan Information Agency, Thos. Cook & Son, Ltd

East. It was occupied and held by the Portuguese from 1551 to 1641, when it passed into Dutch hands till 1795. In that year it was captured by the English but was returned to the Dutch in 1818. In 1824 it was again taken over by the British in part exchange for the island of Java, and became a territory of the East India Company.

Penang (Prince of Wales' Island) was the first British Settlement in Malaya, being ceded to the East India Company by the Sultan of Kedah in 1786. In 1800 a strip of the mainland adjacent to the island of Penang, namely Province Wellesley, was added to the British territories.



SINGAPORE

Above View of the waterfront from Clifford Pier.
Below The Union Building containing many business offices
 and the Hong Kong and Shanghai bank.

Photos Malayan Information Agency

Of the nine states in the Federation, Perak has an area of 7980 square miles, with its northern boundary touching that of Province Wellesley. The capital is Taipeng, but the administrative headquarters are situated in the progressive town of Ipoh. Selangor, which lies south of Perak (its capital Kuala Lumpur is also the capital of the Federation) has an area of 3160 square miles. Stretching farther south comes Negri Sembilan with an area of 2580 square miles, bounded on the south by Malacca, its capital being Seremban. These three states have a seaboard on the Straits of Malacca. A central mountain range running from the north to the south of the peninsula separates them from Pahang, the boundary of which touches all of them. Pahang itself,

the largest state in the Federation, stretches across to the China Sea. Johore is at the extreme south of the peninsula, with Singapore island joined to it by a causeway carrying a wide motor road, two tracks of railway lines and enormous pipe lines bearing Singapore's water supply from Gunong Pulai in the Johore mountains. Its boundary on the north-west and north is formed by Malacca, Negri Sembilan and Pahang: east to west it stretches from the Straits of Malacca to the China Sea. The states of Trengganu and Kelantan are to the north of Pahang, both with their coast line on the China Sea. The northern boundary of Kelantan abuts on to Thailand, and this country also forms the boundary on the north of Kedah and Perlis. Province Wellesley, adjacent to the island of Penang is, except for a few miles in the south, where it touches Perak, entirely encompassed by the state of Kedah, the Sultan of which ceded it to the East India Company in the eighteenth century.

Between Penang in the north and Singapore in the south there is an excellent rail connection through Province Wellesley, Perak, Selangor, Negri Sembilan and Johore. The journey lasts

about twenty-four hours and the trains are very comfortable. The roads also, throughout the peninsula, reach a high standard and are broad and well-metalled. Motoring on their smooth surface, through some of the loveliest scenery in the world, is a veritable delight. There is also an efficient and comfortable service of steamers run by a local British Company from Singapore to Penang calling at interim ports and also crossing to ports in Indonesia.

Life of the Natives of Malaya. Only by getting away from the big towns can one find the real Malaya.

There is a well-defined difference between the Malays who live by the sea and those whose homes are clustered along the banks of a river.

The life of a Malay fisherman is made up of three constituent elements, the sea for fish, *padi* for rice—their basic food—and the coconut for a hundred and one things. The milk and flesh of the fruit add variety to a somewhat monotonous diet. The scene presented by a fishing *kampung* is full of beauty. Along the coasts are innumerable wide bays of clear blue water, on which a few small boats in full sail are seen to move.

The picturesque little houses nestle beneath the green of palms and the darker green of fruit trees. Behind stretch the vivid green fields of growing *padi*. Away inland the jungle-covered mountain stands guard over it all. By day, the whole is bathed under a clear sky in brilliant sunshine, the heat tempered by gentle sea breezes, and a final touch of colour is added by the Malays themselves. Both the men and women love to wear vivid and brilliantly coloured *sarongs* and tunics, as many as ten colours being sometimes combined in one dress. Yet they never look gaudy. They carry themselves with a natural dignity, and the colours blend harmoniously as they walk.

The inland Malay is of quite a different type, and much slighter in build. He lives in a *kampung*, or native village compound, wedged in between a stream and the thick jungle, which he has had to clear for the planting of palms and the cultivation of *padi*. Nature and his environment have made him an expert water-man. He knows how to trap fish in cunningly contrived bamboo or *rattan* cages, and can manipulate his *prahoe* or bamboo raft among the rapids with uncanny but reliable skill. He prefers the river as a means of communication to tracks in the jungle, for which, in his superstitious way, he has great awe. Familiarity, in his case, does not breed contempt, and he prefers to leave the mysteries of the jungle to the aboriginal Sakai, who live in more intimate communion with the forest. Bamboo and *rattan* is more in evidence than in the coastal fishing *kampung*, and there is more mud, thanks to the buffalo, whose favourite pastime, when freed from the harness, is to wallow in mud-holes which it stamps out for itself in the moist fields or on the river bank.

Inland *kampungs* are less colourful than those by the sea, because the restricted scene, and dominant green of the jungle, make for less variety. The sunsets, however, are equally

vivid. The struggle against the jungle dominates the whole life of the Malay of the interior. Confined between jungle and a stream or river, he acquires a sense of remoteness. Only his *padi* fields have permanence. They mark the limit of human activity.

The man himself works in mud and rivers and has a dirty and unkempt appearance, but he has the same taste for colour as his fisherman brothers, and he and his wife both indulge this taste in their clothing, worn during the leisure hours. And of leisure hours he has many, for the soil is rich and asks for but little human effort.

Such is the true Malay.

Rubber and Tin. There is, however, another side to Malaya, a side which made it one of the richest possessions of the British Commonwealth. Not far away from the ideal existence led by the Malay in his *kampung*, one passes through miles and miles of rubber plantations. The rubber industry in Malaya is one of major economic importance. Tens of thousands of acres are planted with rubber trees and thousands of tons of rubber are exported every year. The development of this industry on scientific lines between the wars was amazing. With a big drop in the price of rubber, a scheme restricting output and limiting the area under rubber to that already planted in 1934 came into force by agreement with other rubber-growing countries in the late 1930's. This saved many small companies, which had had to sell at an uneconomic price. During the Japanese War of 1939-45 however, most of the plantations were destroyed. After the liberation, ravaged areas had to be made good and new trees planted but production was started again in a remarkably short time.

An even more important product of Malaya is tin. The mines employ tens of thousands of men and in 1950 as much as 35 per cent of the world's production of tin came from Malaya. In pre-war years the artificial restriction of production of both tin and rubber hindered the development of both these products.

From an agricultural point of view, Malaya is not so far advanced as, for instance, the Indonesian island of Java. Malaya and Java have about the same area, but Java, with a population ten times as large, manages, through its wide agricultural development, to feed its own peoples, whereas Malaya has to import even rice from other countries.

The Philippine Islands

THE Republic of the Philippines consists of some 7000 islands, of which the largest are Luzon (40,814 square miles), Mindoro (3794), Samar (5124), Leyte (2799), Panay (4448), Negros (4903), Cebu (1695), Pelawan (4500), and Mindanao (36,906). The total land and water area covered by the Philippines is about 114,400 square miles. The population of 19,707,000 (1950 estimate) is for the most part made up of Malays. The peoples native to these islands are also of Malay origin. Bounded to the west by the China and Sula Seas, which themselves are separated by the Pelawan Islands, to the north by China proper, to the south by the Celebes Sea, and to the east by the Pacific Ocean, the Philippines are not in direct line with the main routes along the Asiatic coast, although Hong Kong is not far away and was, until recently, the port at which the imports and exports of the Philippines were transhipped. Now, however, there are several lines connecting Manila, by direct route, with the north-west coast of America.

All the islands are mountainous, although only one mountain exceeds 10,000 feet in height. There are fifty recorded volcanoes, of which some are still active. Vegetation is luxurious, and physically the Philippines have much in common with the larger islands of the Indonesian Republic. They differ, however, in one important respect. Whereas the Indonesian Republic is very rich in minerals, the Philippines are not. Their exports are, therefore, mainly agricultural, and consist chiefly of sugar, hemp, tobacco, and copra.

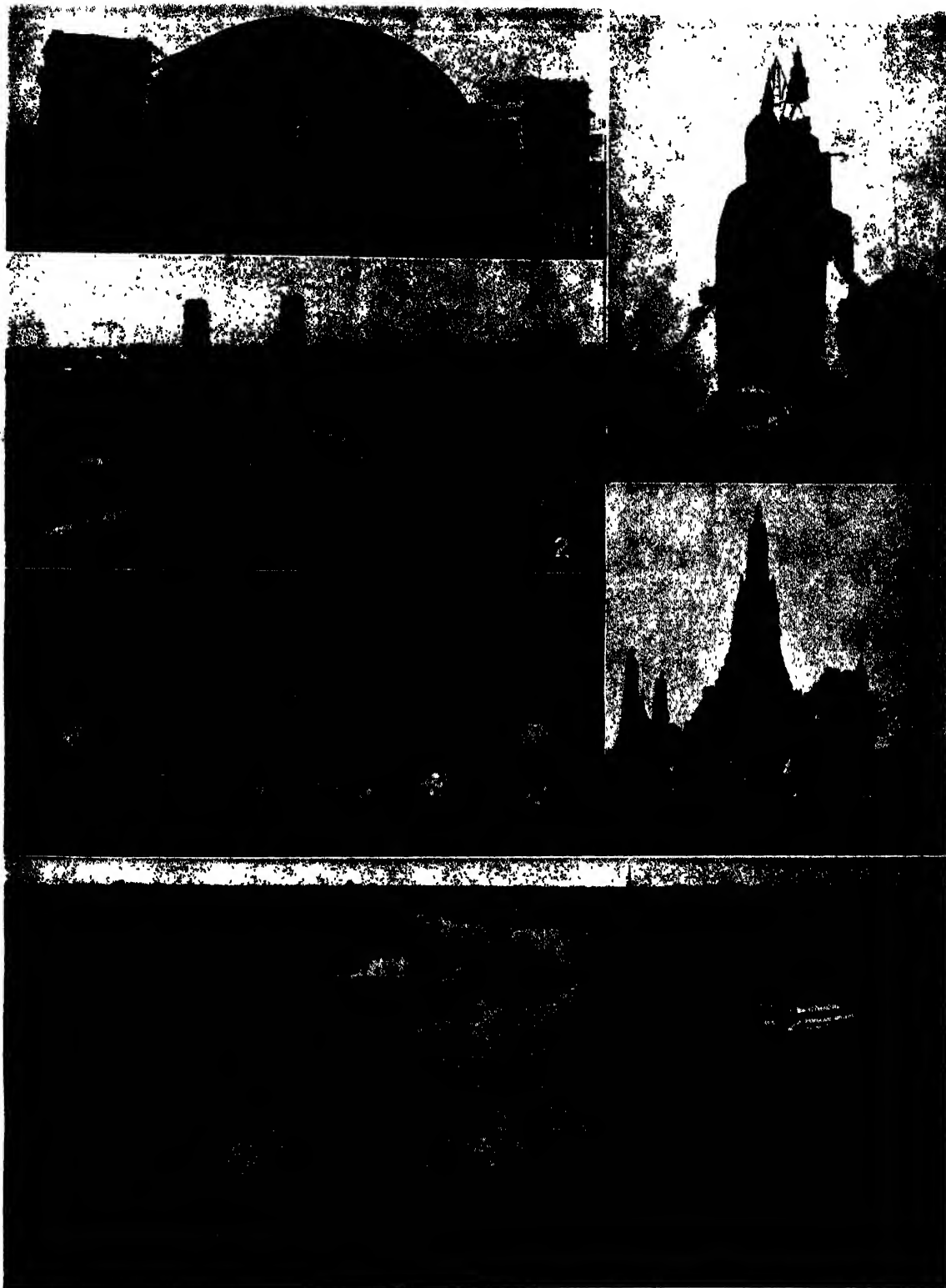
The Philippine Islands were given a certain measure of independence by a new constitution signed in 1935. This provided for their complete independence by the formation of the Philippines Republic, to come into force ten years later. In 1941 the islands were invaded by the Japanese who set up a puppet government. The Filipinos stayed loyal to the U.S.A. and for their heroic resistance were granted independence in 1943. The Philippines became a republic in 1946.

Thailand

THE Kingdom of Thailand is situated in south-eastern Asia, between latitude five degrees and 21 degrees north and longitude 97 degrees and 106 degrees east, and consists of four natural divisions of territory, namely, Northern Thailand, a combination of mountain stream and dense jungle, bounded on the north by Burma and the state of Laos; Central Thailand, a vast rice-plain watered by the Menam Chao Phya and its tributaries; Eastern Thailand, a plateau lying some 800 feet above the plain, watered by the River Mekōng (which helps to form the boundary between Thailand and Indo-China) and its tributary, the Mūn; and, lastly, Southern Thailand, consisting of three-fifths of the length of the Malay Peninsula, and bordering in the south on the Federation of Malaya. The whole area is 200,234 square miles in extent. The length of Thailand is 1020 miles, and the greatest width 480 miles. The country is split up for administrative purposes into seventy provinces, at the head of which are commissioners.

The Government. The Government is now a Constitutional Monarchy, with an Assembly of seventy members, one for each Province, and a Cabinet of Ministers, headed by the Premier. In 1939 the name of the country, Siam, was changed to Thailand.

The Peoples. The population, which is at present estimated at some 18,313,000, is almost entirely agricultural in character, and the industrialization of the country is in its infancy. The majority of the people, although now Thai by race, show a considerable admixture of other strains of blood. In the north, apart from the scattered quasi-Chinese and other tribes living in the hills, the population is a mixture of Lawā (the original inhabitants), Môn, and Thai. In the centre may be found those of the purest Thai blood. In the east there is a strong blending of Khmer (Cambodian) and Thai, while in the south the effects of early Indian immigration are still clearly seen. In more recent years the Chinese have been the most numerous among immigrants,



BANGKOK, THE CAPITAL CITY

1. The railway station. 2. A view of the Memorial Bridge photographed from the east bank of the Menam. 3. The Throne Hall Building of the House of Parliament, photographed at night. 4. The giant image of Buddha which stands in the grounds of one of the Buddhist temples.
5. Wat Arun, the Temple of the Dawn, on the west bank of the river. 6. A general view of the river

Photos: Thai Legation



THE SWINGING CEREMONY
Photo: Thai Legation

and the Chino-Thai strain produced from marriage with Thai wives has been of great benefit to the country. Of foreign inhabitants, next to the Chinese, British Indians, Malays, and Burmese are the most numerous.

Ever since their arrival in the country the Siamese have been Buddhist by faith, following the Hinayana (or Southern) branch of the religion. This branch is distributed throughout Ceylon, Burma, Thailand, and Cambodia, while the Mahayana (or Northern) branch is confined to China, Tibet, Japan, and Korea. In 1951 there were over 19,000 temples and 161,000 priests in the country. There is still, however, a considerable amount of Animism, or spirit-worship, to be found among the peasants, especially in the north and the more remote regions of the country. The most important Christian missions are the French Roman Catholic Mission and the American Presbyterian Mission.

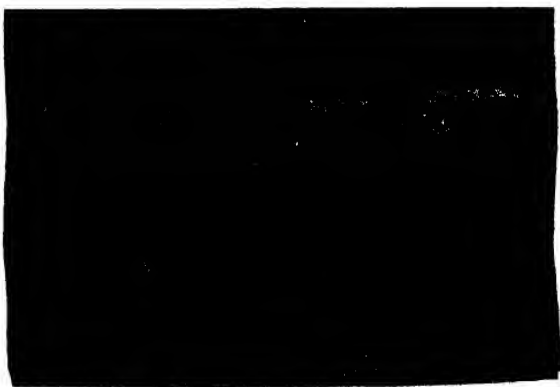
Products. The principal product of the country is rice, or *paddy* as it is called in its growing state. In the northern, eastern, and

southern portions of the kingdom *paddy* is grown mainly for consumption, but the great central plain of Thailand yields a surplus for export varying from 2,000,000 tons of rice after a good harvest to 1,500,000 tons after a moderate one. In times of severe drought or floods, such as happened in 1917 and 1919, this export may be reduced to an insignificant quantity, but fortunately for the country such occurrences are not frequent.

Other products of importance are teakwood and tin. The teak industry is in the hands, almost entirely, of European companies, mainly British, who have been granted concessions to work the northern forests for certain fixed periods which are reviewed from time to time, as the industry is carried on under strict conservancy laws, and royalty has to be paid to the Government for every tree felled. Teak is used in Europe mainly in shipbuilding construction, but in the East there is a considerable demand for furniture purposes, as it is resistant to the termite, or white ant. Exports in 1951 formed only 3 per cent of the country's total as against 5 per cent in 1939.

Tin-mining. Tin is mined exclusively in the southern or peninsular part of Thailand, and the industry is also mainly in the hands of European mining companies, who win the ore either by dredging or hydraulic pressure. Thailand is now ranked fifth among the world's leading producers, following Malaya, Indonesia, Bolivia and the Belgian Congo. Her output of tin ore declined from 17,447 tons in 1940 to 10,364 tons in 1950.

Rubber-growing has become a factor in Thailand's economy, and she has greatly developed it since the days when the Rubber Restriction Agreement granted her a standard assessment of 40,000 tons annually. Rubber



THE ART OF THE THEATRE
A scene from a Thai traditional drama
Photo: Thai Legation

can only be grown in the most southern region, where the rainfall is consistent throughout the year, being open to both monsoons. The amount produced in 1950 was 112,000 tons.

Among other products, of which there is a considerable export, are livestock (buffaloes and bullocks, poultry and swine), hides, stick-lac, salted fish, pepper and salt, and woods other than teak, such as rosewood and ebony.

There are also in the country quite a number of other mineral sources, including wolfram, manganese, antimony, molybdenum, rubies, and sapphires.

Communications. Thailand has a fairly complete railway system. The southern railway line, from Bangkok to Padang Besar, on the Kedah border, where it joins the Malayan Railway branch line from Penang, is 610 miles long. The northern line from Bangkok to Chiangmai is 470 miles long. The north-eastern line from Bangkok to Ubon, via Korat, is 360 miles long. The branch line from Korat to Khonkaen is 116 miles long. The eastern line from Bangkok to Aranya Pradesa on the Cambodian border is 160 miles long. There is a branch line on the northern section to Sawankalok, and on the southern to Songkla (Singora) and the two main lines are linked by a short line, ten miles long, which crosses the Menam at Bangkok. A new line runs from Khonkaen to Nakon Panom. During the 1939-45 War the Japanese built, at a cost of 16,000 Allied lives, a line from Burma to Thailand. The portion running from a point near Bangkok to a point near Moulmein was bought from Britain by Thailand in 1946.

Road-making has hitherto played a secondary part in the system of communications, owing to the existence and value of so many waterways, but an important scheme of road-planning was being taken in hand by the Government before the war put a stop to it.

Bangkok is an important air port for many international air lines.

Military Service. A system of conscription exists, and every able-bodied man of eighteen is liable to service with the colours for two years, for seven years with the first reserve, and for ten years with the second reserve. There is also a small Navy.

Judicial System. The Judicial System of Thailand is based on codes, civil and criminal, which have now been all completed in accordance with foreign treaties. There are a Supreme Court, an Appeal Court, Courts of First Instance, and Magistrates' Courts. Although



A TEMPLE IN WAT PO

Photo: Thai Legation

all European countries have given up their extra-territorial rights in Thailand, a number of European (British and French) legal advisers and judges are still employed by the Government of Thailand.

Irrigation Schemes. An important irrigation scheme for the whole country was inaugurated in 1915, as the result of a visit by a commission of technical experts from India, and the Prasak South Canal System was brought into operation in 1923. Since then other important schemes have been carried out in the south-central region of Thailand, the most recent being put into operation as the result of a twenty-year loan granted in 1950 by the International Bank for Reconstruction and Development.

The Towns. Bangkok, Thailand's capital, lies on the east bank of the Menam Chao Phya, some twenty-five miles from its mouth. The population is over 1,000,000, of whom 250,000 are Chinese. The original growth was along the river bank, where it runs for about six miles, but it is now rapidly spreading eastward. The town contains about 200 miles



METHODS OF AGRICULTURE

Above: Elephants, the chief beasts of burden, hauling logs away from the forest clearing
Below: A tractor at work in the rice fields

Photos: Thai Legation

of metalled roads, and the Royal Palace section, which lies at the northern end and is beautifully laid out with avenues, is separate from the business and residential sections. The whole city is intersected by a network of canals, which has earned for it the title of the "Venice of the East." These canals play an important part in the economic life of the country, as they link up with the river system which still remains the chief artery for the transport of produce, rice in particular, from the interior.

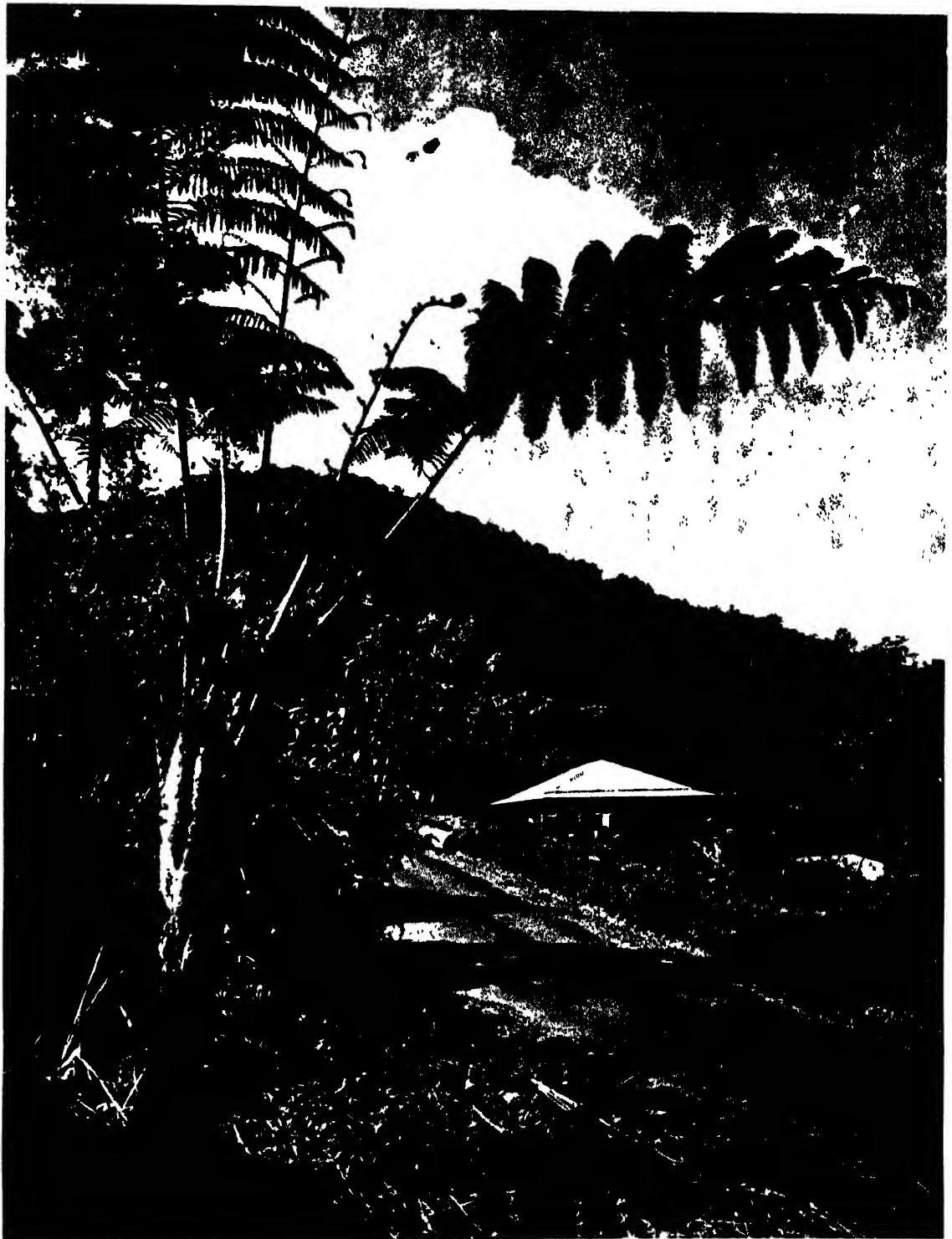
The Grand Palace is in reality a walled town covering an area of over a square mile, and, in addition to the Royal Temple, contains three halls of Audience, two of which are coeval with the founding of Bangkok in 1782 and are excellent examples of purely Thai architecture. The main hall, where receptions are held, was built by a British architect at a

later date. Apart from the Grand Palace, the main features of architectural interest are the large number of temple monasteries with their carpet-like roofs of red, green, orange and blue tiles. The National Museum, which was originally built as the Palace of the Second King, a title formerly given to the brother next to the First King in succession, is another beautiful example of Siamese architecture before it was influenced by European ideas. The New Throne Hall, which is built of Italian marble, is in the style of St. Peter's at Roma, and forms a striking contrast to the Grand Palace. It stands in its own grounds at one end of the main avenue.

As the export of rice is confined almost exclusively to Bangkok, the river is lined for many miles by a succession of rice-mills, which are largely owned by Chinese, who have acquired the leading commercial position in Thailand. The labour employed in these mills is also entirely Chinese, many thousands of coolies being brought annually from southern China for this purpose.

The British have long been the predominant foreign influence and their commercial interests before the war were the biggest. French, Italian and Dutch interests were also represented. In 1942 Thailand joined Japan and declared war on Great Britain, seizing much property and occupying considerable areas of Malaya. A Peace Treaty was signed in 1946, however, which let Thailand off lightly after a treacherous attack upon her traditional friend.

During recent years many notable buildings have been erected in Bangkok, among which may be mentioned the Chulalongkorn University, the Chulalongkorn Hospital, the Faculty of Medicine buildings (on the west bank of the river) established with the co-operation of the Rockefeller Foundation, the Ministry of Economics, the Central Railway Station, the new British Legation, and the offices of the Borneo Company Limited. In addition, a road-bridge over the Menam



TYPICAL SCENERY OF THE INDONESIAN REPUBLIC

Photo Nederland Line

Chao Phya which was opened in 1932, to commemorate the 150th anniversary of the founding of Bangkok, led to the development of the suburb of Tonburi, which has a very large population, on the west bank of the river. There is, moreover, a considerable, literally, "floating" population which lives on houseboats moored to the river banks.

Among other cities, *Chiengmai*, the capital of the north, is the centre of the teak industry and is especially notable for its beautiful temples, each in its own leafy setting, and for the mountain Doi Suteb, which rises to a height of 5000 feet at a distance of only a few miles. *Lopburi* was the most ancient capital of Thailand and contains some fine Khmer temples and also the old Summer Palace of the Tai Kings of Thailand, built by French engineers in the seventeenth century. *Ayudhya* (Krungkao), another former capital, was destroyed in 1767 and has never been entirely rebuilt—it has now a large river population. *Korat*, the spear-head of the north-eastern plateau, is now an important garrison town, and an aerial postal service to the different centres in that region has been directed from this town for many years past. *Prapatom* is a very ancient city with a magnificent pagoda,

380 feet high, where some most important archaeological finds have been unearthed. *Petchaburi*, in southern Thailand, is famous for some remarkable caves; *Nakon Sritammāit* is an important mining centre in the south; and *Puket*, an island on the west coast of the Malay Peninsula, is also of great importance in the tin-mining industry.

Climate. A tropical country, Thailand has three seasons: the cold season begins in November with the incidence of the north-east monsoon, and lasts until January; the hot season lasts from February to May; and the rainy season, which corresponds with the prevalence of the south-west monsoon in the Bay of Bengal, lasts from June to October.

The average temperature at Bangkok, day and night, is 82° Fahrenheit, ranging from 60° in January in an exceptionally cool season to 106° in April in a hot one. The greatest ranges of temperature are experienced north of the capital, and the heaviest rainfall in the south of the country where, in the region of Renong, owing to exposure to both the south-west and north-east monsoons, the rainfall averages over 200 inches annually. The comparative humidity makes the climate trying to Europeans.



HOUSEBOATS ON THE RIVER AT SAIGON

Photo: Photographic Publications

The Federation of Indo-China

FRENCH Indo-China was, perhaps, the richest colonial possession of France. It was divided into five provinces, Tongking in the north; Annam along the sea-coast; the Lao States in the hinterland; Cambodia, south of Annam; and Cochin China, occupying the southern coastal region of the colony.

After the liberation of Indo-China from the Japanese, extremists in the state of Annam started a national independence movement which later spread to Tongking and Cochin China. They asserted their own right to govern, and wanted independence. As in the Indonesian trouble, which the whole situation much resembled, the more reasonable adherents of the cause could not control their fanatical associates. After much fighting and unrest the French were able to make agreements with the various parties in 1946. Under these agreements Indo-China was to become the Federation of Indo-China within the boundaries of which were the independent republics of Viet-Nam (comprised of Annam and Tongking) and Cochin China. The kingdoms of Cambodia and Laos were granted a large measure of autonomy within the Federation. In 1949 Cochin China opted for union with Viet-Nam. The ensuing period has witnessed an almost continuous state of tension between Viet-Nam and the revolutionary Viet-Minh movement supported by Communist China.

Area and Population. The whole area of the Federation is 286,000 square miles, and the population just over 27,000,000, divided before 1946 as follows: Tongking, 40,000 square miles and 8,000,000 inhabitants; Annam, 52,000 square miles and 6,000,000; the Lao States, a very sparsely inhabited region, 93,000 square miles and 1,000,000 inhabitants; Cambodia, 58,000 square miles and 3,100,000; and Cochin China, 26,500 square miles and 4,616,000.

Products. The colony is watered by two mighty rivers, the Mekōng, which rises in

Tibet and flows south-east to Saigon, and the Red River, which runs through Tongking; and their deltas form important rice-growing plains. As in Thailand, rice is the principal product of the country, forming nearly 50 per cent of the export trade. Most of this export of rice goes to China and to France. Anthracite is mined out to a large extent in Tongking, the annual production being over 340,000 tons, and tin is being successfully exploited in the State of Laos. Other minerals found are zinc, lead and phosphate, with small quantities of gold and iron. Fishing is an important native occupation, and the forests are controlled by a special Government service. Rubber is being grown to an ever-increasing extent. The output in 1950 was 48,000 tons.

The people of Tongking and Annam have largely absorbed Chinese culture, as those provinces in ancient days were conquered and ruled by the Chinese, but the Laos State (which is peopled by Tai), Cambodia, and Cochin China incline to Indian culture. This is no doubt due to the Annamite range of mountains, which is a formidable barrier between the two regions, and also to the fact that the last three provinces mentioned once formed part of the old Khmer Empire, whose princes were Indian, and whose religion (Buddhism) and written language (Sanskrit) were brought from India. The Government has established an efficient archaeological service for the conservation of ancient monuments and the finest of Khmer buildings and sculpture, such as may be seen at the temple of Angkor, can scarcely be equalled elsewhere in the world.

Foreign Interests. The attempts made by the French government since the end of the war to raise the status of these overseas territories have had only a limited success. Apart from the troubles in Viet-Nam, a strong separatist movement began to make itself felt in Cambodia in 1953.

CHAPTER ONE

THE CONTINENT OF AFRICA

AFRICA is the simplest of all the continents, simple in shape, simple in structure, simple in physical relief, simple even in climate; and it is very old, being the largest of the severed units into which the old Gondwanaland broke up. Part of its fascination seems to be somehow associated with its great age.

There is even a suggestion of simplicity about its position, for it lies symmetrically across the equator and between the two smallest oceans in the world, the South Atlantic and the Indian. Its most northerly point is just a trifle north of parallel 37° North, while its most southerly scarcely reaches parallel 35° South, and the slight difference in actual latitude is more than cancelled by two facts: the fraction of the total area of the continent which is *north of 35° North* is tiny; and the thermal equator of the earth lies to the *north* of the mathematical equator, and the equator of average heat must be more important than the equator of actual size. Of course, it is largely this balanced position that accounts for the simplicity of the climatic phenomena.

The Shape of the Continent. When we relate this position to the shape and the size of the continent, we find that size is relatively as important as in Asia, and that shape is even more important—more important than the size, and much more important than shape is in Asia. For Africa is a more or less solid block of ancient earth-crust, and the gigantic fractures by which it was cut away from the rest of the old Gondwana mass, left it with a remarkable simplicity of outline. This simplicity of outline, too, is very far from being merely a superficial feature. If the whole block could be lifted up 6000 feet, it would still have practically the same shape; and that is not true of any other continent on the face of the earth.

This block would naturally have had steep, sharply cut edges, with little or none of the articulated irregularity which is likely to afford ease and variety of access for ships; but we have again to notice two facts which emphasize the simplicity. One is the tendency of all

tropical coastlines to be more regular than those in temperate latitudes; the other is that the great age of the block has contributed to the remarkable inaccessibility. For the old rocks have been covered for millions of years with thick layers of sediment, from which immense loads of detritus have been carried continuously down into the surrounding ocean; and these in turn have been redistributed by the strong coastal currents, thus choking up any little notches and even whole bays which might have offered sites for harbours, whether natural or artificial.

Of course, in dealing with the shape of such a vast area we are confronted, as in Asia, with a double problem—the actual outline of the continent and the relations of any large natural divisions, and both parts of the problem are characteristically simple. The outline is almost unbroken, so that the continent has almost a minimum of coast for its area. The total length of coast is reckoned as scarcely 18,000 miles; the total area of both the British Isles and Norway is little more than *one per cent* of the African area, but we have about 35 per cent as much coast, and Norway has almost 70 per cent as much.

No doubt, all the south of the continent may reasonably be called, as it is called, peninsular, and Somaliland runs out seaward in a notable peninsula; but other projections of the coast are rather capes than peninsulas. Marked indentations of the coast are almost equally rare. Eastward of the tenth meridian in the north the so-called Gulfs of Gabes and Sidra—which are also called Syrts (“Sandbanks”!)—form what may be called the Gulf or Bight of Tripoli; and westward from the same meridian, some 1700–1800 miles farther south, the Niger delta divides the so-called Gulf of Guinea into the two bights of Benin and Biafra. But even the Gulf of Guinea is not a real gulf, unless one calls it an “open gulf,” for the word should not be applied to any “bend” which is less than a semi-circle. Of course, this remarkable lack of natural harbours and of possible sites for good artificial harbours

immensely increases the value and the importance of the few which do exist.

The Natural Divisions. The relation of the natural divisions of the continent is, again, very simple, because there are only two of them; and its importance is rather confined to the spheres of historical geography and climate. The huge northern block sprawls for between 3000 and 4000 miles along and parallel with the Tropic (Cancer), where its great longitudinal extension in such a latitude lies behind the very existence of a Sahara; and the great desert was the fundamental cause of the isolation of the southern "half" of the continent until real sailors—an almost unknown type of man in Africa except for the Kru boys of the upper Guinea coast—had robbed the ocean of its terrors, and brought South Africa into the known world. This southern "half"—or third—of the continent runs southward in a broad latitudinal tongue for 2000 miles, but that is not enough to carry it into the "Roaring Forties"; and so, once the southern limits were known, circumnavigation involved none of the tremendous struggles with wind and wave involved in rounding Cape Horn. Indeed, though Diaz called the great cape that shuts in False Bay "the Stormy Cape," the name was very soon changed to "the Cape of Good Hope."

The Simple Structure. The structural simplicity of the continent has already been noticed, but it is by no means confined to the shape. The whole area is not only a single gigantic block of earth-crust, but it has remained standing well above ocean-level for countless ages; and almost all of it is composed mainly of either crystalline or very old sedimentary rocks, the latter in horizontal strata. Except in the extreme north-west, which is geologically part of Europe, there is no system of Young Folded Mountains in the whole length and breadth of the continent; and the paucity of land-forms and the persistence of the horizontal strata naturally affect both the scenery and the human activities and opportunities of development.

The simplicity of relief, too, is very much a sequel to the simplicity of structure; but, if on the large scale there is wide monotony, on the small scale there is an unexpected variety of detail. It is scarcely an exaggeration to say that "it is all of it plateau"; but, even apart from the work and the effect of climate and vegetation, the plateau is far from being uniform

in scenery or in altitude. In these respects, especially in the matter of altitude, we can again divide the continent into two great natural "halves"; and these are much more nearly equal than when we divide simply into northern, or continental, and southern, or peninsular, Africa.

The dividing line between the two new divisions runs irregularly from Loanda and Benguela across the southern watershed of the Congo basin and along the western edge of the Great Lakes and Abyssinia (Ethiopia) to Kassala and Suakin. A glance at a contoured map shows at once that the fundamental difference between the two divisions is one of altitude. The average altitude of the north-western division is certainly not more than 2000 feet, a very large proportion of it—between the Nile and the Gambia—not reaching even 1500 feet; and there are large areas of real lowland—in the hinterland of the eastern Mediterranean (including the Shotts of Tunisia) and in that of the Atlantic northward from the Gambia basin. Apart from the alien folds of the Atlas in the extreme north-west, there are no considerable heights at all except in small areas of the Ahaggar and the Tibesti plateaus; and there is little or no evidence of any volcanic activity except in the crushed corner of the Biafra Gulf, where the Kamerun Peak marks the end of a line of volcanoes the rest of which are islands—Fernando Po, Principe, São Thome. The volcanic soil of these equatorial latitudes is related to the success of the cacao industry.

South-east of the dividing line the conditions are very different. Here, except for a small strip of real lowland along the Mozambique coast, there are few areas below 3000 feet—there are very remarkable evidences of volcanic activity—and large areas rise to more than 4000 feet and even to more than 5000 feet. The elevation increases towards the east and the north, reaching its maximum in the far north-east; and so it reveals the underlying causes both of the great average height and of the wide signs of terrific volcanic activity. For in this north-eastern corner the African part of the old Gondwanaland is so near to the Asiatic part that the stupendous earth-storm associated with the folding up of the vast mountain system of Eurasia could not leave the African part unshaken. The results included some gigantic crackings ("fractures," and "faults") of the crust and some vast upwellings and outpourings of volcanic material

AFRICA



AGRICULTURAL PRODUCTION 1950 in thousands of tons

Cocoa	272	93	62	44	28
	Gold Coast	Nigeria	French W. Africa	French Cameroons	Others
Cane Sugar	551	420	178	200	382 101 225
	Union of South Africa	Mauritius	Egypt	Others	Egypt Uganda Others
Palm Oil	176		130		118 20 Sierra Leone
	Nigeria	Belgian Congo	Fr. W. Africa		
Rice	1242	802	531	499	
	Egypt	Madagascar	Fr. W. Africa	Others	
Maize	2,721		1,421	127	385
	Union of South Africa	Egypt	Morocco	Others	

LIVESTOCK 1950 in millions

Cattle	12.5	5.7	4.0	3.6	3.0	1.9	5.2
	Union of South Africa	Madagascar	Sudan	Fr. Equatorial Africa	Southern Rhodesia	Morocco	Others
Sheep	32.5	10.4	5.6	4.5	3.3	6.9	
	Union of South Africa	Morocco	Sudan	Algeria	Kenya	Others	

such as built up Abyssinia; and a great Rift Valley—associated with the Dead Sea—runs, doubled in some places, from the Red Sea to Lake Nyasa, and is overlooked by mighty volcanoes, such as Elgon, Kenya, and Kilimanjaro.

But these features must be clearly distinguished from the Atlas heights. For the Atlas system is merely a detached loop of the Alpine system, and it is still linked up—across the Gibraltar crack—to the main body by the Nevada ranges in Spain, and—across the Malta crack—by the Apennine ranges in Italy. The main divisions are the Great or High or Snowy Atlas, reaching nearly 15,000 feet—to the south the Anti-Atlas, continued eastward as the Saharan Atlas—and to the north the Tell or Middle Atlas. The features are typically Alpine, i.e. "Peak and Pass," towards the two ends of the system (the real western end being in the Canary Islands), but more of plateau type in the centre; and so the coasts of Morocco and Tunis differ from that of Algeria.

The Sahara. The southern margin of the Atlas system is indicated by a line which runs steadily north-eastward from the mouth of the Draa Wadi to Cape Bon, and which is therefore exactly parallel with the northern part of our frontier-line between the two great relief divisions of the continent, i.e. the part which links the equator in the south-west with the tropic in the north-east; and the northern or "Saharan" division is crossed by a third line running at right-angles to the two other lines, i.e. from south-east to north-west, and rising to considerable heights (possibly 8000 feet) on the Ahaggar-Tazili and Tibesti-Tarso plateau. This third line is the great water-parting of the Saharan wadis, and it divides the very ancient rocks to the west from rather younger rocks to the east.

On both sides of this water-parting there are large depressions, though it is probable that none of them is below sea-level, and there is a great deal of topographical variety, though most of it is entirely devoid of vegetation. Both the wonderful sculpturing of detail and the rolling seas of sand that are so adverse to vegetation, are due mainly to the great and sudden variations and extremes of temperature in the very dry air. The bare rock of the higher parts is called "hammada," and the sand-dunes are called "erg" or "igidi." It is as easy to freeze milk in a saucer sunk in the loose sand at night as it was for the Hebrews to cross the Red Sea "shallows" at low tide when a strong

east wind had not only increased the lowness of the ebb, but had also dried the sand enough for it to freeze hard. Of course, those who tried to cross at the same place when the tide was up were bound to come to grief, especially if they were trusting to wheeled-traffic (Exodus, 15, 3).

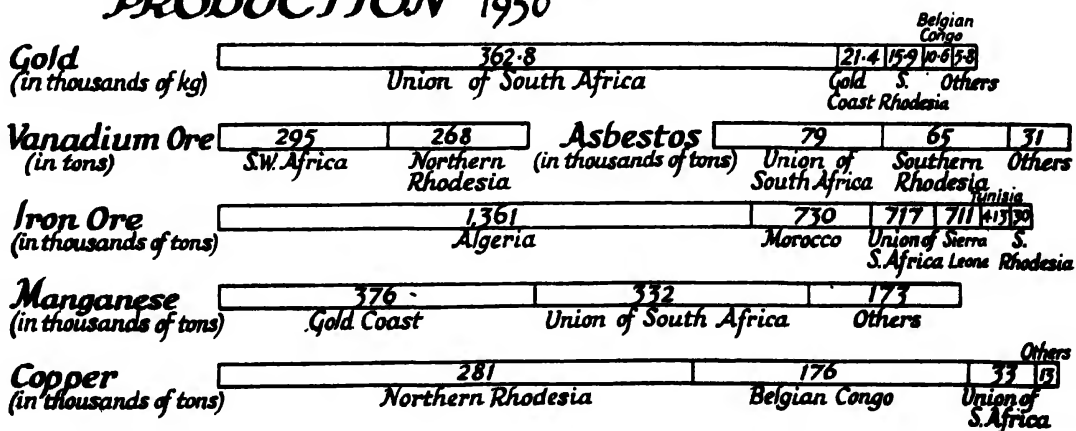
On the flanks of the great water-parting, as the core of the whole region, lie the most arid stretches of the desert; but even here the surface is not quite "all a sea of sand," or all salt, or all entirely waterless. There are many plains of sheer sand and miles of shifting dunes where large basins are much exposed to strong winds, and there are deep deposits of salt in some places, especially in the Shotts; but there are spots where underground supplies of water reach the surface to feed oases, or where there is enough dew to support a scattering of vegetation. The southward trend of political control here too, is converting leagues of desolation into very important international and even intercontinental air-routes. Camels are still used, but the caravans must follow oasis routes; and the development of air-traffic must end the camel-traffic, and may even hinder the construction of the proposed trans-Saharan railway.

Southern or peninsular Africa has some small areas of desert, e.g. the Kalahari, and some salt lakes, e.g. Ngami; but, apart from Egypt, it is much more important than northern or continental Africa both in itself and in its relations to the continent as a great world unit. It may be regarded as a huge area of plateau lying between Cape Town and Suakin, with maximum elevation—as in the Atlas region—towards its two extremities; and it is so much favoured climatically and in its relief that it is the source of all the really important rivers in Africa except the Niger. It is not only much less uniform in general relief than northern Africa, but its higher masses are broken up into distinct "natural" regions by the valleys of big rivers, e.g. the Zambezi. The southern half of the arc, however, is lower than the northern, and therefore is much less important as a watershed, though the higher latitude compensates for the lower altitude so far as human health is concerned. But it is also much richer in metal deposits, especially of copper and gold, and its volcanic "pipes" have proved rich in diamonds, especially at Kimberley. Its natural and political divisions are so important that they need no attention here in a general survey.

AFRICA



MINERAL PRODUCTION 1950



Climate. In such a huge area of very simple structure and relief, climate must have special significance and importance; and in this case it is the one great differentiating factor over the mass of the continent. Indeed, its influence is supreme in deciding the distribution of the population and their varied activities; and so it demands relatively full and detailed treatment, though some of the most important facts are obvious at a glance.

As we have already seen, the continent lies symmetrically across the equator; it is also—alone of all the continents in the world—crossed by both tropics. We should expect, therefore, to find similar climatic zones in both directions as we move away from the equator, and we do find “Mediterranean” climates at both the north-western and the south-western extremities of the continent. But, if over 75 per cent of the total area is in the tropical zone—if Africa thus has a far larger continuous area in the tropics than is found elsewhere in the whole world—if 8,500,000 square miles of this continuous land surface have a vertical sun at noon for some part of the year, then it seems natural and justifiable to describe Africa as “the continent of heat.”

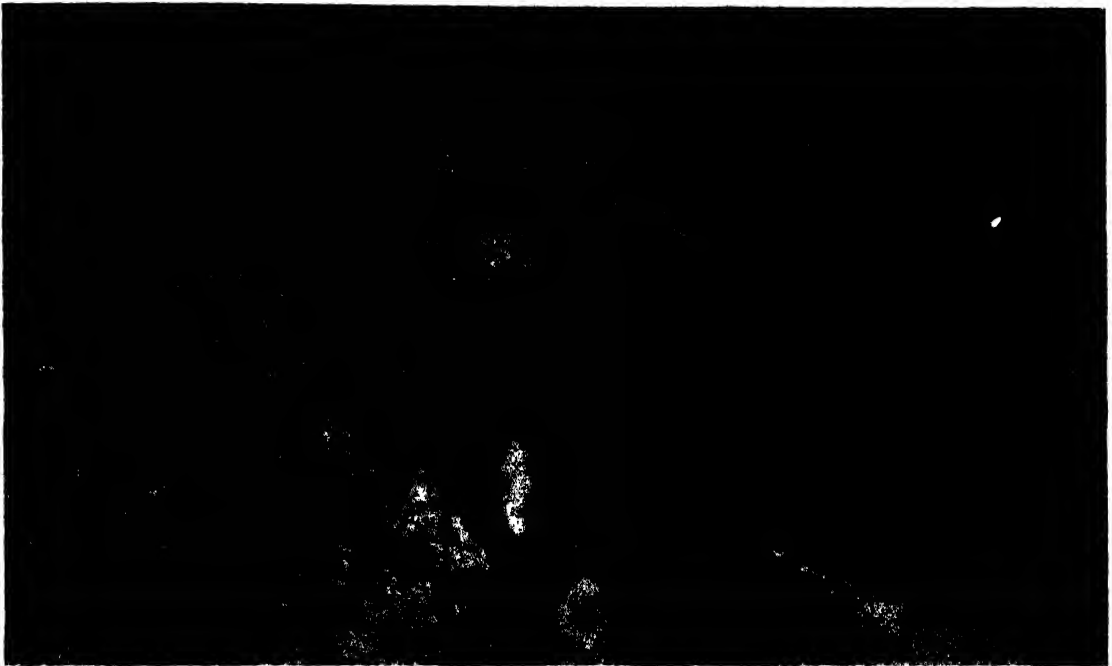
But we may notice further that the high temperatures are not only found, but also are very similar, over the whole of the continent. Even in the north less than 2,000,000 square miles fall within temperate latitudes, and the similar area in the south is 500,000 square miles less than that. Apart from the effects of great height, the average temperature is nowhere and never low; at sea-level even in the coldest month it is nowhere below 55° Fahrenheit; and generally above 70° Fahrenheit. Few places, therefore, have any very marked seasonal range of temperatures, and much the greatest range is found in the deserts, especially along and near the two tropics, where the relative humidity is very low, and where the midsummer day is an hour and a half longer than it ever is on the equator. Indeed, the range along the Tropic of Cancer between the coldest night and the warmest day is certainly approaching 100° F. It is mainly this tendency to extremes in the most arid belts that is responsible for the sudden and violent storms, such as the Sirocco and the Simoon.

At the same time, while stressing the tropical position and the importance of a vertical sun, we must remember the very considerable altitude of the continent, some small areas

even reaching the line of perpetual snow; and, as temperature falls theoretically by one degree for every 300 feet of elevation—1° for 200 feet in very dry air—actual mean temperatures are often far below what we expect them to be. For instance, at Nairobi, which is about 5500 feet above sea-level, the mean temperature of the hottest month (March) is only 65° F., quite a common July temperature in England. At the same time, that of the coolest month (July) approaches 60° F., an impossible temperature in our coldest month, when even the midday sun is quite low in the sky—possibly less than 17° above the horizon.

Ocean Influences. But these general and normal tropical phenomena are modified, and in some parts even countered, by exceptional conditions associated with the large areas of land and water that are nearest to the continent. Cool ocean-currents, the Canary and the Benguela currents, wash respectively the northern and the southern stretches of the west coast; and their temperature is lowered still further by the off-shore Trade winds, which blow the less cold surface water seaward, and this is replaced by colder water which wells up from lower depths. When warm air passes over these cool currents, it is chilled down until its vapour is converted into dangerous fog; and yet the evaporation off the colder water is so slow and so slight that the rainfall is much less than it would otherwise be. The currents are narrow, and so their cooling and fog-producing effects are confined to a comparatively small belt, but the temperature of the Benguela current does not ever or anywhere approach a maximum of 60° F. Indeed, even off the east coast, where normally there should be North-East Trades blowing the warm surface water of the ocean landward in summer, the replacement of the North-East Trade by a South-West Monsoon north of Zanzibar leads to another upwelling of cold water where this south-west wind has blown the warm surface layers of the coastal water seawards.

Of course, there are also warm ocean currents, which should both slightly raise the air temperature and also supply abundance of vapour for rain; but there is only one of these on each ocean coast, and the eastern one does not at all fulfil its promise of rainfall. The eastward Guinea current has an “equatorial” temperature of over 80° F., and it is accompanied by very heavy rainfall over the land, but we would expect heavy rainfall in these latitudes in any case; and, on the other hand,



ON THE FRINGE OF THE SAHARA
Primitive irrigation in the Sidi Ifni region of Spanish North-west Morocco
Photo: Spanish Embassy



CULTIVATION
Extensive vineyards are a feature of the Paarl Valley, Cape Province
Photo: South African Railways

the Mozambique current is a southward current, and so is moving steadily into cooler latitudes, and both the wind itself and the relief of the land are less favourable to rainfall than on the Guinea plateau.

Land Influences. The influence of the land, however, is more important than that of the ocean, as it tends to upset completely the normal conditions which should prevail here. In such latitudes the wind-system ought to be perfectly simple. Inside the tropics there should be the regular North-East and South-East Trade winds, meeting along the equator in a belt of calms and merging polewards in South-West and North-West Anti-Trades; and both belts should move northward and southward with the sun, the Anti-Trades thus giving typical Mediterranean climates of summer drought and winter rain to the extreme north-west and south-west corners of the continent. The high temperature of the Mediterranean water is very favourable to the passage eastward of cyclones associated with the South-West Anti-Trades in the northern winter.

When we compare the theoretical conditions with the actual, we find that Trade winds do blow over a large part of the continent, so much of which is in the tropics; but, as they are naturally cool and dry at their source, and blow towards warmer latitudes, they are far more likely to absorb moisture than to discharge it. This may sometimes be a blessing, and it is so in the case of the "Harmattan," the name given to the North-East Trade in Nigeria, where it gives so much relief from the enervating effect of the damp heat over the Guinea coastlands that it is spoken of by Europeans as "the doctor." At the same time the high temperature of peninsular Africa draws both the North-East and the South-East Trades in very strongly to the east coast, with great benefit to the rainfall; but, of course, in the west the South-East Trade is an offshore wind, and any occasional indraughts come landward off the cold Benguela current.

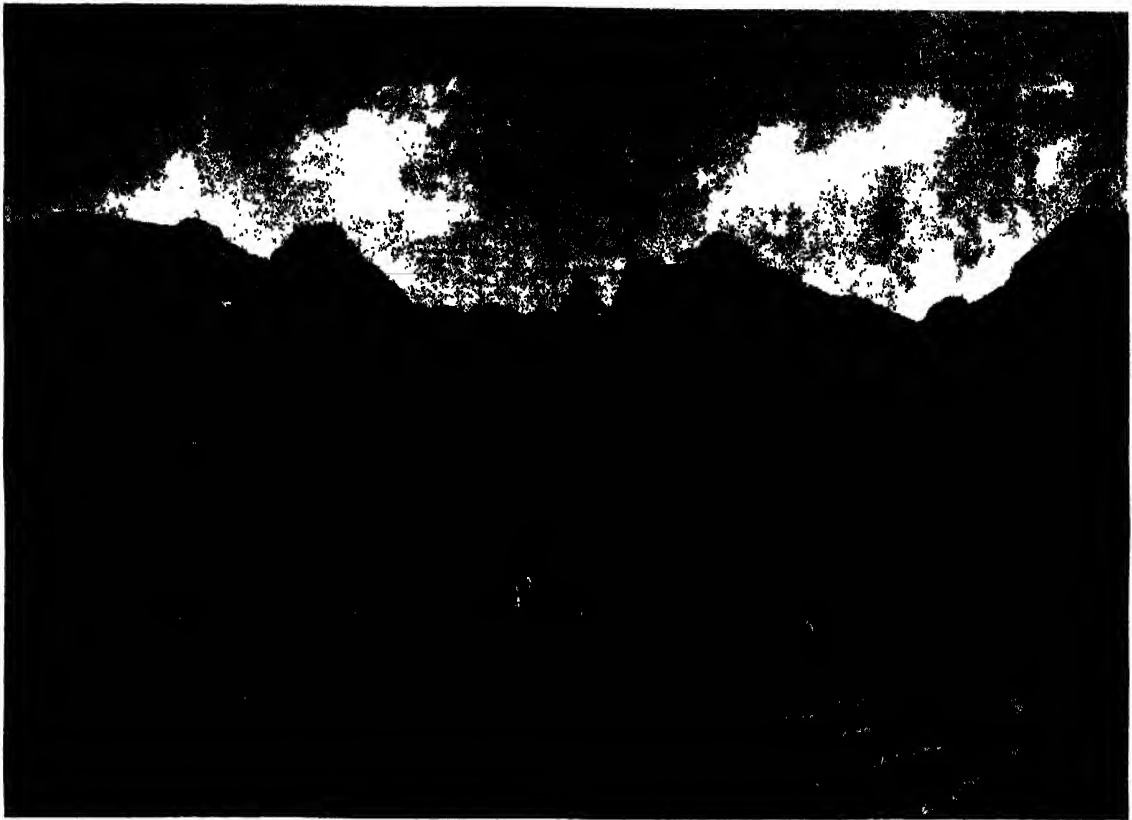
In the northern summer, owing to the great width of Africa in the latitudes of the vertical noonday sun—to the absence of any oceanic influence to the east in these latitudes—and to the vast areas of dry and loose "soil," temperatures are excessively high; but farther east still, eastward of Africa itself, they are even higher than in Africa, and the air-pressure is lower, and so there is a steady eastward flow of air which becomes part of the South-West Monsoon of Asia. The Saharan temperatures

as a matter of fact, would have been high enough in themselves, and the air-pressure would have been low enough, for a true South-West Monsoon to be drawn in across the Guinea coast; but, as this influence is supplemented by the "pull" of Asia, the Guinea Monsoon is very strong. When it blows directly at right-angles to the plateau rim, as on the Grain ("Pepper") coast, forced ascent causes very heavy rainfall, e.g. over 170 inches in Sierra Leone; but, when it blows more or less parallel with the coast, as on the Gold Coast, the fall is much less, e.g. as low as only some 27 inches at Accra. But this very much smaller rainfall must not be interpreted as any proof that the climate is more healthy—the really important consideration in Africa, and one to which we must pay detailed attention presently.

There will be very similar conditions in "July" on the east coast. There the N.E. Trade is entirely replaced by the S.W. Monsoon; but, as this blows parallel with the Somali coast, and produces an upwelling of cold water, it deposits little or no rain in Africa. The S.E. Trade is usually strong, but has deposited much of its original burden of vapour on the eastern highlands of Madagascar. Even south of the Tropic of Capricorn during the southern summer there is a somewhat similar interference with the rainfall, for the coastal plain is so warm—warmer than the wind—that there is little or no condensation; and then the lofty rim of the plateau, in the Drakensberg heights, robs the wind of almost all the rest of its vapour.

Seasonal Climate. But Africa has now become far more important than it was only a few years ago, both as a residential home for White people and as a gigantic tourist-ground; and, as much of its development is evidently going to be associated with, and even to depend on, air-traffic, seasonal changes of climate are of special importance, especially with reference to temperature and winds, though humidity and light are also very important.

As we have seen, nearly all of the continent has hot summers associated with winters that are at least really warm, if not actually hot (70° F.); and, therefore, over much of the area summer rains are typical, and do something towards modifying the heat, while the rain-clouds and the humidity are a real protection against dangerous light. The highlands in the tropics, especially Abyssinia and Uganda, are warm-temperate at all seasons; but the altitude and the latitude combine to make the light



THE DRAKENSBERG

Photo: South African Railways

very strong and correspondingly trying and dangerous to the nerves of White peoples, especially of the blond type. Everywhere the Trade winds are very beneficial to human health generally, but the dry season is usually found when they are at their strongest; and so the danger from the bright light is increased just when otherwise the climate would be best. These conditions may be associated with the very black—a beautiful black—skins of many of the natives, especially in Sudanese latitudes, e.g. the Hausas.

During the southern summer (January) there is relatively high pressure over both the South Atlantic and the Indian Oceans as well as the normal high pressure belt to the north of the continent; and so during this season ocean winds everywhere tend to blow landward—an obvious advantage in other respects, even if they do not carry with them much rain. Towards the north they contain very little vapour; in the east they carry plenty of vapour, but the land is warmer than the wind on the lower levels. Where the relief rises to 6000–8000 feet, as on the Kikuyu scarp, there is very heavy

rain, both the Congo and the Zambezi being fed from this watershed.

In July there is relatively high pressure not only over the land, but also over the two oceans, so that movements of wind should not be violent, but may be very uncertain. In the north there is a marked eastward movement of air, increasing in strength with nearness to Asia; but there is little rain, even off winds heavily laden with vapour, because the land is too hot to encourage any condensation. In some places these conditions are very productive of discomfort and far from favourable to human health.

Vegetation. When we come to relate these climatic conditions to the natural vegetation of the continent, we must be careful not to be misled by our better knowledge of the other large continent of the world. For Africa, unlike Asia—the general conditions of which are generally well known—has no area of any size that has cold winters, i.e. with the average temperature below freezing-point; and it has no vast areas of real lowland or of land at

any altitude in temperate latitudes. On the other hand, the height of the plateau rim greatly curtails the amount of "rain" carried inland, and the quantity which does penetrate to any distance is very variable and quite unreliable, even where we expect it to be most certain or most continuous. For instance, the Amazon and the Congo basins face each other in identical latitudes across a narrow ocean; but the one is mainly a vast lowland, directly exposed to both Trade winds at their wettest, where they approach the equator, while the other is wholly a plateau basin, turning its back on the Trades and even cut off from them by the East African highland. Indeed, over much of the Congo basin the climate includes a more or less dry season—a fatal interlude to "wet jungle."

The area of real selvas, therefore, is very small; except for a fringe actually along the Equator and in the oil-palm belt west of Cape Palmas, there is practically no real selva, for the total rainfall is insufficient or the fall is not continuous. Generally both defects are present except to the east of the Lower Niger, as on the rubber lands below the lofty Kamerun heights.

The "jungle" area is, however, larger than the quantity and the distribution of the actual rainfall would suggest; and the reason for this is to be found in the heavy flooding of the rivers owing to the height of the plateau rim and its nearness to the ocean. Indeed, these conditions of relief account for the presence of some "jungle" products much farther inland and much farther from the equator than one would expect; and the "lakes" or lake-like expansions of the rivers—so many of which, like the Niger, flow at first *inland*—not only allow the cultivation of "jungle" products, e.g. cacao, but also account for the relatively large riverside population, with marked gifts for fishing and even for boat-building. Some of the old Uganda "canoes" were said to be capable of carrying 1000 people.

But, of course, the best conditions for real "jungle" products is where the climate is most equatorial, and so the atmospheric conditions are as favourable as the surface moisture; and even there far the most progress has been made under direct Imperial help and encouragement, though not under normal "plantation" methods, which ignore the personality of the workers, and crush out the small owner. The best rubber, like the palm-oil and very fine mahogany, comes from the narrow fringe

of wet jungle on the Guinea coast; and conditions are very favourable to the production of cacao, especially on the islands, though the quality so far has not been quite up to the West Indian.

This relative lack of wet jungle or dense evergreen forest is not the only peculiarity in what we might expect to be an area of typical equatorial vegetation. The most important influence is that of the monsoonal *régime*, i.e. the occurrence of seasonal drought or tendency towards drought; and the result is seen in the distribution of savanna, especially "parkland" savanna, over immense tracts. For the summer rains allow, and even favour, the growth of very tall "grasses," while the seasonal lack of rain discourages, or even prohibits, the growth of trees except along the rivers ("gallery forests") or of a kind tolerant of drought, such as the acacias and the baobabs. The conditions favourable to the tall grasses are, of course, also favourable to the cultivation of maize and millet; and maize is specifically a plateau plant.

The smallness of the total area that falls within the temperate zones limits the amount of temperate forest, and this is further limited by the extreme character of the two "Mediterranean" belts, for they are much affected by the real desert zones in which they merge. Though the amount of forest is thus poor, the northern belt contains some very valuable trees, especially the olive—which is a native here—and the evergreen cork-oak; and the southern belt, though much less valuable naturally, has a remarkable and peculiar flora of its own. The assertion, too often made, that the desert is encroaching in these belts and in the Sudan, is almost certainly not justified. The assertion has been made most strongly about the Sudan, especially with reference to Northern Nigeria. But this district has a population density of well over 40 to the square mile, and has a very profitable export trade in groundnuts and cotton, as well as in hides and skins; indeed, the yearly export of groundnuts alone approaches £20,000,000 in value, and even the driest corner of the territory (round Lake Chad) has a reliable, though tiny, rainfall of 15 inches.

If there was any real encroachment of sand or deterioration of vegetation or decrease of water-supply from rain or streams or wells, there would be quite definite migration of population, and decrease of exports. At the same time, in such an area the amount of sand

and loose soil must constantly lead to silting up of streams; and farming should not be "too good"—a cover of *weeds* being a great protection against damage by wind, so that it should be *encouraged* until farmers are ready to sow their crops (with the oncoming of the rains). At present even Northern Nigeria is at least 150 miles away from "dangerous" sand, and has a splendid natural bulwark in a thick zone of thorn forest.

Animal Life. In olden days, as it is still in primitive areas, the natural vegetation must have been very closely associated with the animal life; and this is true to-day of most of Africa. At the same time we must not ignore or undervalue the abnormalities which we have been noticing in the relation of the relief and the climate to the natural vegetation.

The most important of these is in connection with the wide distribution of grassland. If this grassland, whether steppe or savanna, is so very widely spread, the continent ought to be peculiarly rich in grass-eating animals, and the native peoples ought to be predominantly pastoral. But both the latitude and the uniformity of relief are only moderately favourable to pastoralism, and are wholly unfavourable to pastoral nomadism, such as has been so typical of Asia. There are no such varieties of level and of latitude as in Asia offer series of "linked" pasture-grounds, between which flocks and herds can travel seasonally, and can find during every season at some altitude or in some latitude a varied sufficiency of good pasture for their different animals.

What the savannas are really suitable for is a combination of arable and pastoral farming; and mixed farming of this kind has been carried on for centuries in northern Africa by the Hamitic and Semitic intruders and even by the Negro natives, as it is now being carried on in southern Africa by Europeans. Negro agriculture, however, is largely confined to forested areas, and these are curiously devoid of large animals, especially devoid of the useful grass-eaters that can be domesticated; and even now such animals cannot be imported into most of the forested areas because they fall victims at once to insect-borne diseases. All the work has to be done, therefore, without the aid of animals for traction or burden or manure; and the most suitable implement for the worker is a hoe. With this and the primitive methods of culture associated with it, the natural crops cannot be expected to prove

very good or very nutritious; but the best of them, yams and bananas, are very easy to grow.

The animal life on the savannas is, of course, fundamentally of the grass-eating types, with the natural accompaniment of flesh-eating beasts of prey; but it is very important to remember that the typical savannas, unlike typical steppes, are not treeless. At the same time the presence of the trees and their effect on the habits and the health of the animals, especially the grass-eaters, need a word of explanation.

The trees are distributed in three distinct ways—as "hermits," in groups, and in stream-bank "galleries." The last, being confined to the banks of running water, are relatively few, even if important as landmarks and signposts; and the "hermits" are so scattered as to have little importance, though very peculiar and interesting. The typical "hermit" is the baobab. It is a deciduous tree, which stores water inside the spongy bark of a gigantic trunk; but its leafage is too thin and too patchy to give much shade even when the crown is in full leaf. At the same time, owing to its very remarkable capacity for storing water, it can be found on very dry soils, though it must not have, and will not tolerate, any rivals near it to compete for the very limited supply.

Much more important than these lonely giants are the groups of trees, especially the giraffe-haunted acacias, found in natural hollows, where either there is some permanent ground-water at no great depth, or where surface water tends frequently to collect. Even here, success goes to the long-rooted kind, and a long root is also a fine anchor against the strong winds, to which is due the "umbrella" crown of most of the long-rooted trees. It is owing to these groups of trees that the savanna, especially where the grass is not very high, is rather like English park-land.

The grasses are tufted, like pampa grass, and resemble the trees in some of their climatic adaptations, especially their habit of storing water, which they store in the "humus" of their old stalks, that collects over their roots in the dry season. But they are not in the least like our English grasses: a tract of savanna does not in any way suggest even an English field of ripe but uncut hay. With water so precious, too, they do not tolerate rivals in close proximity; and so their open growth and their height at once allow and conceal the movement of animals, at least of the smaller kinds, such as hyenas or jackals.

AFRICA: FACTS AND FIGURES

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Area:
909,500 square miles

THE BELGIAN CONGO

Currency:
Congolese franc

Population: Native 11,600,000; non-native, 69,000; Total, 11,669,000. **Capital:** Leopoldville-Kinshasa.
Chief Towns: Elizabethville; Coquilhatville; Lusambo; Bukavu; Stanleyville; Boma.

Communications (1950):

Roads: 74,000 miles.
Railways: 3427 miles.
Navigable waterways: 6279 miles.
International aerodromes: 5.
National aerodromes: 115.
Emergency aerodromes: 64.

Chief Agricultural Products:

Palm oil and nuts; cotton; coffee; cocoa; rubber;
copal; gum; sugar; ivory.

Minerals:

Copper; diamonds; gold; silver; tin; cobalt;
uranium; radium.

Other Particulars:

Type of State: Belgian Colony. The Trustee Territory of Ruanda and Urundi is included in the Belgian Congo.

BRITISH EAST AFRICA

KENYA, UGANDA, TANGANYIKA AND ZANZIBAR

Area:
224,960 square miles

KENYA

Currency:
100 cents = 1 East African shilling

Population (1948 census): European, 29,660; Asiatics 97,687; Arab and other, 24,174; Native, 5,030,300; Total, 5,181,821. *Chief Towns*: Mombasa (capital of Coast Province) (52,000); Nairobi (capital of the Colony and of Central Province (66,000); Nakuru (capital of Rift Valley Province); Kisumu (capital of Nyanza Province).

Minerals:

There are many minerals at present unexploited. Gold is mined and sodium carbonate recovered from Lake Magadi. Kyanite is also important.

Communications:

Roads: 20,500 miles.
Railways: 1622 miles.

Agriculture:

European Crops: Coffee; maize; sisal; wheat; tea; sugar cane; coconuts; fruits; pyrethrum; potatoes. *Indian Crops*: coconuts, sugar cane. *Native Crops*: sorghum; millets; maize; pulses; potatoes; sweet potatoes; cassava; bananas; wattles; cotton; sesame; groundnuts.

Other Particulars:

Type of State: British Colony and Protectorate. Land area 219,730 square miles, water area 5230 square miles. *Industries*: coffee curing works, sugar factories, flour mills. Animal husbandry is of great importance.

Area:
93,981 square miles

UGANDA

Currency:
100 cents = 1 East African shilling

Population (1948 census): European 3,448; Native 4,953,000; Asiatic 37,517; Total 4,993,965. *Chief Towns*: Kampala (3000); Entebbe (Port Alice) (7000).

Minerals

Tin and gold are mined. A geological survey is being made.

Communications:

Roads: 2499 miles (Native Administrations maintain additional 6000 miles).
Railways: 332 miles.

Agriculture:

Native Crops: food crops; cotton; coffee; tobacco; maize; chillies; sugar cane. *Indian Crops*: sugar cane; para rubber; sisal; coffee. *European Crops*: tobacco; coffee; rubber; tea.

Other Particulars:

Type of State: British Protectorate. The province of Buganda is recognized as a native kingdom. Land area 80,371 square miles, water area 13,610 square miles. Forests contain much Budonga mahogany and other hardwoods. *Industries*: Processing primary products, e.g. cotton ginning factories, oil crushing mills, coffee factories, saw mills. Cattle, sheep and goats are mainly native owned.

BRITISH EAST AFRICA—(contd.)

Area:
362,000 square miles

TANGANYIKA TERRITORY

Currency:
100 cents = 1 East
African shilling

Population: (1948 census). European 10,648; Native 7,004,000; Asiatics 59,512; Total 7,074,160. *Capital City:* Dar es-Salaam (73,000). *Chief Towns:* Tabora; Tanga; Dodoma; Moski; Arusha.

Minerals:

The largest undeveloped goldfield in the world is in Tanganyika. Gold; salt; tin; mica, and diamonds are mined. Coal; nickel; manganese; graphite and asbestos are known to exist.

Agriculture:

European Crops: sisal; coffee; tea; tobacco; coconuts; cotton; wheat; groundnuts; barley; maize. *Native Crops:* coffee; cotton; groundnuts; tobacco; sesame. Pastoral agriculture is almost entirely native.

Communications:

Roads: 21,370 miles.
Railways: 1000 miles.
Steamers: on Lakes Victoria, Nyasa and Tanganyika.

Industries:

Processing primary products, e.g. sisal (employing 19,000); cotton ginning (employing 4000); coffee factories; flour mills; rice mills; oil mills; soda factories.

Other Particulars:

Type of State: Administered under United Nations trusteeship. Area under European settlement 2,500,000 acres. Area under sisal 509,888 acres. Population density about 19 per square mile.

Area:
1020 square miles

ZANZIBAR AND PEMBA

Currency:
100 cents = 1 East
African shilling

Population (1948 census) (European in brackets): Zanzibar 149,575 (261); Pemba 114,587 (35); Total 264,162 (296). *Capital City:* Zanzibar Town (45,284, of which Europeans total 230 and Indians 10,926).

Communications:

Roads in Zanzibar: 205 miles.
Roads in Pemba: 93 miles.

Agriculture:

Cloves; coconuts. On 50,000 acres 3,500,000 clove trees are grown providing 80 per cent of the world supply. Coconuts occupy over 55,000 acres.

Other Particulars:

Type of State: British Protectorate. Zanzibar includes Pemba; their respective areas are 640 square miles and 380 square miles. *Commerce:* Some trade has been lost to Dar es-Salaam and Mombasa but a large share of East African *entrepôt* trade is still enjoyed.

BRITISH WEST AFRICA

SIERRA LEONE, GAMBIA, NIGERIA, GOLD COAST

Area:
27,925 square miles

SIERRA LEONE

Currency:
Sterling

Population (1950 estimate): European 1000, other 2,000,000: Total 2,001,000 *Capital City*: Freetown (86,000).

Minerals:

Diamonds; haematite; gold; iron are exploited; chromium; platinum; ilmenite; rutile; corundum; bauxite are known to exist.

Agriculture:

Entirely in the hands of native small-holders. *Export Crops*: palm oil; palm kernels; kola; ginger; piassava fibre. *Food Crops*: rice (the staple diet); cassava; yams; sweet potatoes; maize; millets; groundnuts; coconuts.

Communications:

Roads: 1032 miles (892 open throughout the year).
Railways: 336 miles.
River transport is important.

Other Particulars:

Type of State: British Colony and Protectorate. *Area of Colony* (comprising Sierra Leone Peninsula; Tasso Island; Banana Islands; York Island and Bonthe); 271 square miles.

Area:
4101 square miles

GAMBIA

Currency:
Sterling

Population: Colony 27,000 (1950 estimate); Protectorate 250,000 (1950 estimate); Total 277,000. *Capital City*: Bathurst. *Chief Towns*: Georgetown; Kuntau-ur; Koina.

Communications:

Roads: 1000 miles.
Rivers: The Gambia is navigable 150 miles from Bathurst for ocean-going craft; 292 miles for smaller vessels.

Agriculture:

Entirely in native hands. There is no cattle. *Crops*: groundnuts (95 per cent of total exports); rice; maize; guinea corn; cassava; sweet potatoes.

Other Particulars:

Type of State: British Colony and Protectorate. *Area of Colony* 96 square miles; *of Protectorate* 4005 square miles.

BRITISH WEST AFRICA—(contd.)

Area:
372,674 square miles

NIGERIA

Currency:
Sterling

Population (1950 estimate): 24,000,000. *Capital City*: Lagos (240,000). *Chief Towns*: Ibadan (335,000); Kano (100,000); Iwo (86,000); Ogbomosho (84,500); Oyo (80,000); Oshogbo (64,000); Ede, Iseyin.

Communications:

Roads (Government maintained): 6206 miles (595 miles surfaced); maintained by Native Administrations: 18,956 miles (5093 miles are all season roads).
Railways: 2300 miles.

River transport: practicable on the Niger, Benue, Imo and Bonny Rivers.

Industry:

Processing palm oil.

Agriculture:

Entirely a peasant industry.

Exports: palm oil products; groundnuts; cocoa; cotton. *Native food crops*: yams and maize in the south; guinea corn and millet in the north.

Forests:

Area 318,500 square miles. Timber exports: mahogany; sapelewood; mansonia; African walnut; other hardwoods.

Minerals:

Tin; coal; gold; silver; lead; columbite; wolfram.

Other Particulars:

Type of State: British Colony and Protectorate (including a part of the Cameroons under trusteeship). *Area of the Colony* 1381 square miles; *of the Protectorate* 371,293 square miles. Animal husbandry is important. There is trade in hides and skins.

Area:
91,843 square miles

GOLD COAST

Currency:
Sterling

Population (1948 census): 4,095,276 (including 6,773 non-Africans). *Chief Towns*: Accra (Colony) 135,456; Kumasi (Ashanti) 70,705; Cape Coast (Colony) 23,061; Sekondi (Colony) 44,130; Tamale (Northern Territories) 17,372.

Communications:

Roads: 8000 miles.
Railways: 500 miles.

Minerals:

Gold; manganese; diamonds.

Agriculture:

Peasant farming prevails.

Export Crops: cocoa; palm oil products; timber (especially mahogany). *Food Crops*: Yams; cassava; plantains; groundnuts; maize; shea-butter; fruits.

Other Particulars:

Type of State: British Colony with large degree of self-government. It includes the Dependencies Ashanti and Northern Territories and the Trustee Territory of Togoland. *Area of Colony* 23,937 square miles; Ashanti 24,379 square miles; *Northern Territories* 30,496 square miles; *Togoland* 13,041 square miles.

Exports 1950: Gold £8,718,623. Cocoa £49,981,044.

FRENCH OVERSEAS TERRITORIES IN AFRICA

District	Area Square Kilometres	Population	Density of Population per Square Kilometre
Algeria (North and South Territories)	2,195,080	8,676,000	4.2
Tunis Protectorate	125,180	3,230,950	25
Morocco Protectorate (French Zone)	415,000	8,500,000	20
French West Africa (Total)	4,675,470	16,535,000	3.6
Senegal	209,970	1,992,000	9.0
Mauritania	943,000	518,000	0.5
French Guinea	280,900	2,180,000	7.7
Ivory Coast	336,200	2,065,000	6.2
Dahomey	115,700	1,505,000	13.6
French Sudan	1,195,000	3,177,000	2.8
Upper Volta	315,700	3,069,000	9.9
Niger	1,279,000	2,029,000	1.6
Togo (Territory under Trusteeship)	56,000	971,500	17
French Equatorial Africa	2,500,000	4,350,000	1.7
Cameroon Trustee Territory	431,320	3,000,000	7
Island of Madagascar	616,450	4,295,000	7
Island of Réunion	2,400	260,000	108
French Somaliland	23,500	55,000	2.3
Totals	11,040,400	49,873,550	4.4

Chief Towns

Algeria: Algiers (315,200); Oran (256,660); Bone (102,800); Constantine (118,770). *Tunis:* Tunis (370,300); Sfax (54,600); Bizerta (39,300). *Morocco:* Marrakesh (238,000); Casablanca (551,300); Fes (Fez) (200,900); Rabat (160,400); Meknes (160,000). *French West Africa:* Dakar (Senegal) (100,000); St. Louis (Senegal) (63,000); Kotonu (Dahomey) (11,933); Bamako (French Sudan) (100,000); Abidjan (Ivory Coast) (45,700). *Togo:* Lomé (30,000). *Madagascar:* Tananarive (180,000); Tamatave (35,000); Majunga (36,000). *Réunion:* St. Denis (39,000); St. Pierre (25,000); St. Paul (27,500); St. Louis (24,000). *French Somaliland:* Djibouti (17,000).

Communications:

ROADS:

North Africa: 45,183 kilometres (Algeria 30,000 kilometres; Tunis 6673 kilometres; Morocco 9100 (32,000 kilometres of track)).
Madagascar: 4500 kilometres.

RAILWAYS:

North Africa: 8045 kilometres (Algeria 4368 kilometres; Tunis 2104 kilometres; Morocco 1573 kilometres). *French West Africa:* 2300 kilometres.
Madagascar: 800 kilometres. *Réunion:* 127 kilometres. *French Somaliland:* 108 kilometres.

Agricultural Products and Minerals:

District	Agriculture	Minerals
NORTH AFRICA		
Algeria	Wheat, barley, oats; maize and sorghum (especially in Morocco); tobacco, flax, silk; fruits, dates, bananas, figs, almonds, pomegranates and (in Tunis) citrus fruits; olive oil, viticulture.	Iron, lead, zinc; phosphates in Tunis and Morocco; manganese, molybdenum and cobalt in Morocco.
Tunis		
Morocco		
FRENCH WEST AFRICA	Groundnuts; palm oil and kernels; rubber; rice; maize; millet; cotton; indigo; gum arabic. Pastoral farming is important.	Gold is mined in Senegal, French Guinea and the Ivory Coast. Manganese is known to exist in the Ivory Coast.
FRENCH EQUATORIAL AFRICA	Coffee; cacao; cotton; palm oil products. Ivory is exported.	Undeveloped: copper, gold, zinc, lead and diamonds are found.
MADAGASCAR	Rice; manioc; maize; sweet potatoes; beans; potatoes; coffee; vanilla; sugar. Cattle raising is the chief native industry.	Graphite; mica; phosphates.
RÉUNION	Sugar; manioc; tapioca; vanilla.	

Area:
386,000 square miles

EGYPT

Currency:
1000 millièmes = 100 piastres tariff = £E

Population: (1950 estimate): 20,439,000. *Capital City:* Cairo (2,100,500). *Chief Towns:* Alexandria (925,000); Port Said (178,430).

Communications:

Railways: 4,188 miles
Navigable canals: 1696 kilometres.
Mercantile Marine: 44 steamships, 40,505 net tons.

Industry:

Although increasing it is mainly connected with the conversion of local raw materials for export.

Chief Crops:

(1 Feddan = 1·038 acres)

Crop	Area Covered
Maize and millet	2,076,000 feddans.
Cotton	1,975,000 "
Wheat	1,497,000 "
Rice	488,000 "
Beans	320,000 "
Barley	118,000 "

Other crops: Oranges; tangerines; sugar cane; onions.

Other Particulars:

Type of State: Republic *Cultivated area:* 13,500 square miles.

Area:
967,600 square miles

ANGLO-EGYPTIAN SUDAN

Currency:
Egyptian Pound

Population (1950 estimate): 8,500,000. *Capital City:* Khartoum (82,000); *Other Large Town:* Omdurman (125,000).

Communications:

Railways (1950): 2016 miles.

Minerals:

Gold; salt.

Agriculture:

Chief Crops: Egyptian and American cotton; sesame; senna leaves and pods; groundnuts; dates; chillies. *Forests:* mahogany is valuable. *Animal husbandry* is important. Of *gum arabic* the Sudan is the world's chief source.

Other Particulars:

Type of State: Condominium. Area under cotton 519,000 feddans (1950).

Area:
350,000 square miles

ETHIOPIA

Currency:
100 cents = 1 Eth. dollar

Population (1950 estimate): 9,000,000. *Capital City:* Addis Ababa (340,000). *Chief Towns:* Harrar (40,000); Direedawa (30,000).

Communications:

Railways: 500 miles.
Roads: 11,000 miles.

Chief Crops:

Barley; millet; wheat; coffee; rubber; rice; sugar.

Other Particulars:

Type of State: Empire. In 1952 the former Italian territory of Eritrea (48,000 square miles) was federated with Ethiopia.

BRITISH CENTRAL AFRICAN FEDERATION

NORTHERN RHODESIA, SOUTHERN RHODESIA AND NYASALAND

Area:
287,640 square miles

NORTHERN RHODESIA

Currency:
British and South African

Population: (1951 census) European 37,221; native (estimate) 1,891,000; Asiatics 2,529; Total 1,930,750.
Capital City: Lusaka. **Chief Centres of Population:** Broken Hill; Fort Jameson; Livingstone; Mazabuka; Abercorn; Kasama; Ndola; Nkana.

Communications:

Roads (trunk): 2176 miles; (main, district and branch): 4852 miles.
Railway mileage: 642.

Agriculture:

Native food crops: maize; Kaffir corn; bullrush and finger millet; cassava and pulses. *European crops:* maize; tobacco; wheat; groundnuts. Cattle raising is an important European activity.

Minerals:

Copper; zinc; lead; cobalt.

Other Particulars:

Type of State. Member of Federation of Rhodesia and Nyasaland, established in 1953. The value of mineral production in 1951 was £72,277,038

Area:
150,333 square miles

SOUTHERN RHODESIA

Currency:
British and South African

Population: (1951 estimate). European 136,000; Asiatic 10,300; Natives 2,000,000; Total 2,146,300.
Capital City and Federal Capital: Salisbury (83,100). **Other Large Town:** Bulawayo (75,000).

Communications:

Motor service mileage: 2942.
Railway mileage: 1282.

Chief Crops:

Maize; tobacco; citrus fruits; cotton.

Minerals:

Gold; asbestos; coal; chrome.

Other Particulars:

Type of State: Member of Federation of Rhodesia and Nyasaland, established in 1953. Cattle raising is important. Tobacco Crops (1950) 107,017,869 lb. Total area under European cultivation (1950) 624,340 acres. Maize (340,935); Tobacco (155,286). **Livestock:** Cattle 3,004,000; Sheep 307,000; Pigs 100,000.

Area:
47,949 square miles

NYASALAND

Currency:
Sterling

Population (1950 estimate): Native 2,341,100; European 2900; Asiatics 5000; Total 2,349,000. **Chief Town:** Blantyre.

Communications:

Roads: 4765 miles.
Railways: 1039 miles.

Chief Crops:

Tea; tobacco; cotton; rubber.

Minerals:

No geological survey has been made but some minerals are known to exist.

Other Particulars:

Type of State: Member of Federation of Rhodesia and Nyasaland, established in 1953. Land area 37,596 square miles; water area 10,353 square miles. About 10,000 natives are employed in the fishing industry on Lakes Nyasa, Matombe and Shirwa (Chilwa).

SOMALILAND PROTECTORATE

Area:
68,000 square miles

Currency:
100 cents = 1 East
African shilling

Population: Somali (estimate) 700,000; non-native 3000; European 100; Total 703,100. **Chief Towns:** Berbera (30,000); Hargeisa (20,000); Zeila.

Herds: Sheep 2,500,000; goats 2,000,000; camels 1,500,000; cattle 300,000. **Chief Crops:** Sorghum; maize; grain; barley; gum arabic; frankincense.

Communications:
Roads: 950 miles.

Minerals:
Petroleum; galena; mica and coal exist but are not worked.

Other Particulars:

Type of State: British Protectorate. *Area cultivated:* 80,000 acres. The native population is nomadic.

PORTUGUESE PROVINCES IN AFRICA

District	Population	Area	Chief Towns
Angola (Portuguese West Africa)	4,400,000	Square Miles 487,788	Loanda; Benguella; Mossamedes; Lobito.
Mozambique (Portuguese East Africa)	5,732,800	297,654	Lorenço Marques; Mozambique; Beira; Porto Amelia; Quelimane.
Principe and São Thome	60,160	384	
Portuguese Guinea	517,250	13,944	Bissau; Bolama.
Cape Verde Islands	147,000	1,557	São Vicente.
Totals	10,857,210	801,327	

Minerals:
Gold; diamonds.

Communications:
Roads: Angola 17,215 miles first class and 20,715 second class; Portuguese Guinea 1870 miles; Mozambique 3702 miles.
Railways: Angola 2080 miles; Mozambique 477 miles.

Agricultural Products:
Coffee; maize; sugar; cotton; wheat; tobacco; palm oil products; cocoa; sisal; copra; cinchona (especially on São Thome and Principe); rice and beeswax (especially in Portuguese Guinea); Manioc; castor oil; mustard (especially on the Cape Verde Islands).

UNION OF SOUTH AFRICA

AREA, POPULATION AND COMMUNICATIONS

Population (1951 census):

Province	Cape of Good Hope	Natal	Transvaal	Orange Free State
European population	935,674	274,468	1,205,458	227,587
Bantu	2,483,652	1,803,347	3,472,640	775,702
Asiatic	17,548	199,068	48,892	16
Other	980,456	31,550	75,415	14,902
Total	4,417,330	2,408,433	4,805,405	1,018,207
Percentage of Grand Total	34.9	19.0	38.0	8.1
Density of Europeans per sq. mile	3.38	7.78	10.9	4.57
Density of non-Europeans per sq. mile	12.56	60.48	32.57	15.86
Total density per sq. mile	15.94	68.26	43.48	20.43

Total Population:

European 2,643,187; Bantu 8,535,341; Asiatic 365,524; Other 1,102,323. Grand Total 12,646,375.

Percentage Composition of Total Population:

European 20.9; Bantu 67.5; Asiatic 2.9, Mixed and other races 8.7. *Population density*: European 5.6 per square mile; Non-European 21.2; Total 26.8. *Urban population*: 32 per cent of grand total (European urban population 1,972,735, 74.63 per cent). *Rural population*: 68 per cent (European rural population 670,452, 25.37 per cent).

Chief Towns:

(European population given in brackets)

Benoni 109,715 (36,517); Bloemfontein 127,775 (51,652); Greater Capetown 632,987 (267,212); Durban 419,607 (129,633); East London 90,110 (43,580); Germiston 113,765 (46,432); Johannesburg 912,339 (363,965); Pietermaritzburg (Capital of Natal) 74,399 (32,110); Port Elizabeth 215,416 (83,181); Pretoria (Seat of the Government and capital of the Transvaal) 283,148 (150,657).

Area and Communications

Province	Area	Percentage of Total Area	Road Mileage	Railway Mileage*
	Square Miles			
Cape of Good Hope	277,113	58.65	36,894	5,255
Natal	35,284	7.47	6,600	1,562
Transvaal	110,450	23.37	26,000	3,399
Orange Free State	49,047	10.51	11,510	1,660
Totals	472,494		81,004	13,338

Mercantile Marine:

27 vessels of 100,627 tons gross.

Civil Aviation† (1950)

Passenger miles flown 125,600,000; Goods, 4,275,000 ton miles.

Other Particulars:

Type of State: Federal State, member of the British Commonwealth of Nations.

* Railway mileage includes 1,462 miles in the Territory of South West Africa. There are also 174 miles of private railways in the Union.

† Including the Territory of South West Africa.

UNION OF SOUTH AFRICA

AGRICULTURE, MINERAL WEALTH AND INDUSTRIES

Area Under Cultivation (1950):

Total number of farms: 116,848.
Total cultivated: 214,786,708 acres.

Cattle and Sheep:

Cattle (1950): 12,500,000
Sheep (1950): 32,500,000

Chief Crops:

Wheat; corn; oats; potatoes; cane sugar; tobacco.
Kaffir corn; maize; cotton; fruits; wattle (wattle bark is used for tanning).

Value of Minerals Mined Up To 1950:

Gold	£2,989,308,351
Diamonds	394,691,116
Coal	215,960,845
Copper	54,303,120
Total value of minerals mined (including others not named)	£3,741,750,241

Other Minerals Mined:

Tin; silver; asbestos; lime and limestone; manganese; platinum; iron ore; chrome.

Industries:

Iron and steel; engineering; chemicals; public utilities; building; textiles; printing; leather.

Area:

317,725 square miles

SOUTH WEST AFRICA

Currency:

As Union of South Africa

Population (1951): European 49,641; Bantu 380,686; Asiatics and Malays 27; Total 430,354. *Capital City* (European population in brackets): Windhuk (Windhoek) 14,929 (6,985). *Chief towns* (European populations given in brackets): Keetmanshoop 4,477 (1,673); Ludertiz 2,910 (834); Swakopmund 2,872 (1,569).

Agriculture:

Karakul sheep (1950): 5,077,000.
Cattle (1950): 1,609,000
Cultivated area: 63,660 acres.

Chief Crops:

Wheat; maize; Kaffir corn; potatoes; beans and tobacco.

Minerals:

Diamonds; tin; vanadium; lead-copper-zinc concentrates. Minerals account for 25 per cent of exports.

Communications:

Railway mileage: 1462.

Other Particulars:

Type of State: Administered by the Union of South Africa by virtue of the South West African Affairs Amendment Act, 1949.

THE NATIVES OF AFRICA

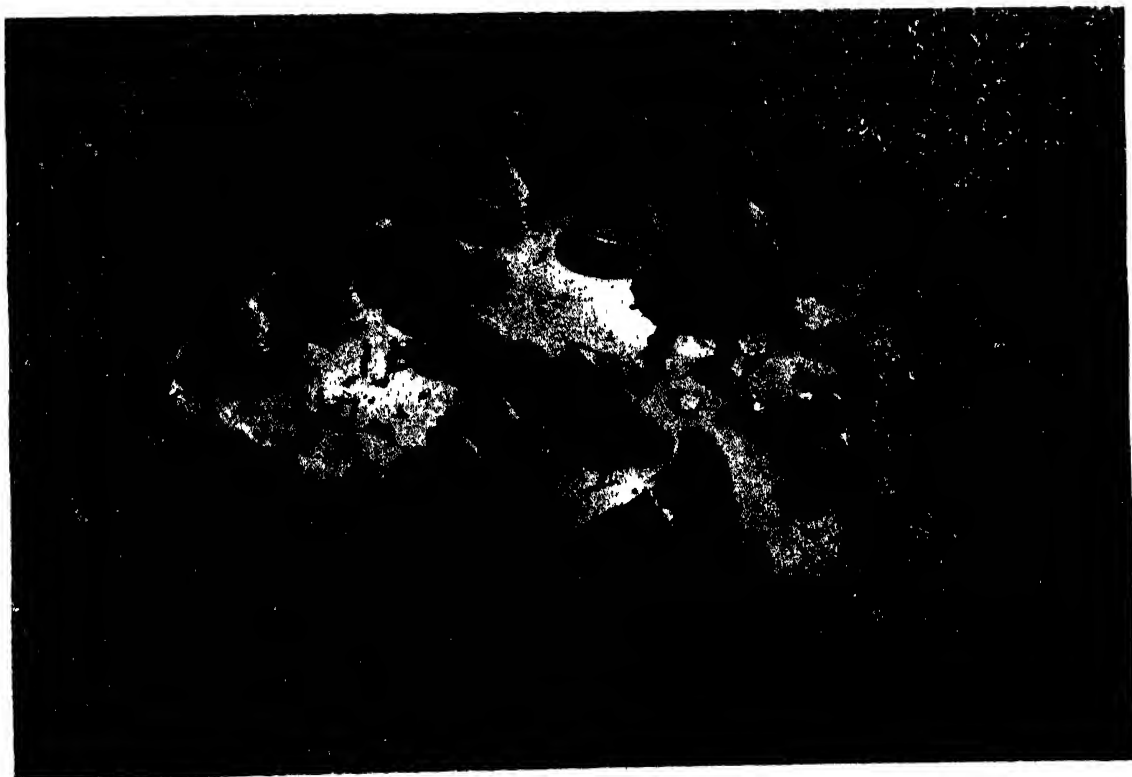
THE portrait of mankind is in four prime colours and a mix: white, yellow, red, black, and the indiscriminate khaki inevitable to the canvas. In Africa, apart from the trace of white in the comparatively small European element, black and khaki predominate, with, perhaps, a small dash of yellow in the aboriginal Bushman.

The black can be very black, and has the habit of persistence. Time and again compromises revert to type after a generation or two, so powerful is the prime virility of the black race. The khaki also has firm features, more notably those of culture and hardihood. The khaki of all shades, and from all causes, has its root in miscegenation, in great part due to the appalling slavery of the past, which sought in Africa the wares for its world market;

and to what is known to-day as infiltration, by both design and accident.

Were that all, this task would be simple. The dividing line between black and khaki is, however, as vague as it sounds. Superimposed on the colour scheme are broad and indetermined characteristics, of language, creed, aboriginality, and culture, defying any but detailed description. There are hundreds of tribes, more often than not with their own separate languages or dialects, laws, customs, and problems, owing all manner of different allegiances, within a geographical organization as illogical as native inconsequence could provide. Their masters include the British, Belgian, French, South African, Egyptian, and Portuguese, among others.

Hill and plain, bush and jungle, marsh and



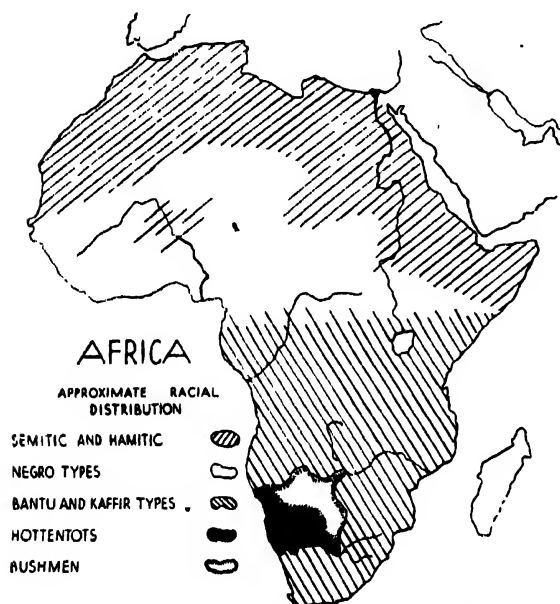
A NATIVE VILLAGE

A typical small Shilluk village, on the upper reaches of the Nile. Note the formation of the *huti* (hut), the beloved cows and goats on the right, and the simple family life depicted on the left

Crown Copyright Reserved: R.A.F. Official Photograph

forest, river and desert, temperature and climate, town and country, have all produced their important variations, north, south, east, west and centre, to blend the heterogeneous whole into that great human enigma—the Dark Continent.

Bartering "Black Diamonds." The story of the subjection of the black during the eighteenth and nineteenth centuries followed millennia of every form of vicious activity it is possible to conceive. As western civilization, save the word, reached its adolescence, the



products of its system leapt upon defenceless Africa, making merry with the pastimes of its predecessors; until the bleeding land wept for the days of the ancient Egyptian kings when, if life was Hell, at least it was life. Almost within our ken great European states marched ruthlessly through a practically virgin land, slaughtering and enslaving where they could, setting an example which the Turk, the Egyptian, the Arab, and the Moor were only too eager to follow. All over the continent this hideous spectacle of cruelty laid horny hand on the priceless life of the wretched people, harrying and carrying them hither and thither as part of the vested interests which linked souls with silver. Coincident with the scramble for lives came the scramble for square miles. The public horrors of the Congo, of Liberia, and of elsewhere, remain the mausoleums which history has erected to the licence they indulged.

Livingstone, Stanley, Samuel Baker, Cecil

Rhodes, and Charles Gordon, among many others, conceived ideals out of this ghastly shambles, ideals which have, judging by results, at least ameliorated the lot of the wretched natives themselves.

Depletion and slavery rife from time immemorial, it is small wonder that even in the fastnesses of their mountains and swamps, forests and bush, and desert distances, the natives still remember the dark days when their wives and daughters were driven like cattle to mother the khaki-coloured country in the north; while those of the men who were not killed were bartered for goods all over the world, especially in America. A thousand and more raids for slaves, black diamonds they were called, culminated in the most tragic horror that has probably been enacted within living memory. When Gordon was killed, the Mahdi, and subsequently the Khalifa, in the name of Islam, for twelve years so misgoverned the 6,000,000 people of the Anglo-Egyptian Sudan, that whole tribes vanished from starvation and oppression, until only about 2,000,000 remained to tell the sad tale.

It is obviously impossible in a few words to give more than a broad picture of the African native and his life. In the background are great forests and jungle, clearings here and there rising to the foothills of gaunt mountains, or stretching towards the vista of vast waterless deserts. Flowing hither and thither through mighty lakes, great rivers and streams, on their way to the sea, pass through foul swamps to bring life everlasting to that part of nature which swarms in the dry season to the banks, man and beast, bird and vegetation alike.

Paint that picture at another time, after the rains, and the crowd of all things bright and beautiful is dispersed about the plains into the very mountains themselves, gracefully enjoying the leisure of nature, ever the privilege of the simple life.

Thus is Africa: peopled by dozens of distinct races; with thousands of tribes divided into illogical groups; with equally illogical characteristics, often embracing each other, perforce to include a mass of relevant but unwieldy detail.

No matter how long or how close a traveller's contact with Africa, he cannot adequately describe the entire racial contortions. Ethnographically, it would lead to a genealogical list, tabulated with notes, which would in the end mean nothing; because of cross strain of blood, thought, and every

conceivable human activity. Wherefore the excuse for the generalities which follow is that record of human interest is sometimes of greater consequence than the mere facts of the genus or the species.

Ethnographical Groupings. For convenience in presenting the subject, the natives of Africa are grouped into arbitrary herds which, for want of a better terminology, are driven into the following eight pens, more or less in a cultural order, which obligingly (except notably for the dwarf races) range themselves approximately from north to south:

1. The Fellaheen, Riff, Moor, Abyssinian (Ethiopian), and others, Semitic and Hamitic, in the coastal belt north and north-west.
2. The other Arab types in northern Africa, mostly above the Tropic of Capricorn.
3. The Upper Nile tribes, about the banks of the River Nile.
4. Negro types, mostly in the Sudan belt between the Tropic of Capricorn and the Equator.
5. Bantu and Kaffir types, mostly south of the Equator.
6. Hottentots, towards south-west Africa.
7. Bushmen, in south-west Africa.
8. The Dwarf Races, of the equatorial forests.

The Fellaheen, Riff, Moor, Abyssinian, and others, Semitic and Hamitic. Word of Africa would be incomplete without reference to the Fellaheen, the Egyptian peasant who labours in the cotton and corn fields of the lower reaches of the Nile Valley and its delta, as he urges three crops a year from the bountiful soil which gives the richest part of all Africa its wealth. Essentially peasants, they toil as families from dawn till dusk, with an astonishing vigour, like bees, year in, year out, in small fields generously watered by the vast irrigation system. Their leisure, if any, is spent in their home life, where they live in their hordes, crowded among innumerable small mud huts for the most part situate on the border between cultivation and desert.

The Fellaheen are the descendants of the mythical Egypt of the past, a people civilized according to their own standards, through their contact with Europe and because of the vast interest displayed by the world in the sea communications to the Far East. Whether the Semitic and Hamitic influences came through Egypt or from the coast, both originally came via Arabia and the Caucasus, and belong to the same branches of mankind as most Euro-



MASK-MAKING

One of the ritual masks made for religious observances by the Habbe people

Photo: Wide World

peans, divided into two main groups, Northern and Eastern. The Northern group includes the inhabitants of North Africa generally, the Riffs, Moors, and Berbers of Tripoli, Tunis, Algeria, Morocco; the elusive Senussi, the Zuareq and Tibu of the Sahara; and the Fulah of Nigeria; among many others found mostly north of the Sudan belt. The Eastern group includes the Egyptian Fellaheen both

ancient and modern, the Berberines about the lower reaches of the Nile, and many of the Abyssinian tribes.

These North African peoples affect the customs and dress of their Arab half-brothers. Their culture and dignity are those born of the desert, their lives the carefree nonchalance of all the peoples wedded to Islam. The Moors were originally a branch of Mohammed's family, the Idrisis, founded in the Golden Age, about the time that Haroun Al-Raschid flourished (eighth century). The dominant



A SCENE IN ETHIOPIA
A native Abyssinian girl kneading bread. Note her elaborate coiffure
Photo. Wide World

racess of modern Abyssinia are Semitic, Tigre, or Agazi in the north, and Amhara in the south, and came from Arabia soon after Christ was born. The aboriginals were Hamitic, represented by the Agau and Falasha in the north, by the Galla (Oromo), Sidama, and Gonza in the south, and by the Danakil (Afar), Faltal, and Somali in the east. Many of these tribes, for long isolated by the distance of their gaunt mountains, have as amazing and wild a record in their cruel doings as probably any in the world. Raiding, slavery, and lawlessness have long been bywords among them, even into present times.

Most Abyssinians deplore trade and prefer the profession of arms. Their native industries include weaving cotton and wool, leather-work, and work in metal. Regrettably there is no place here further to discuss the thousand and one interesting customs and traits of these unhappy peoples.

The Other Arab Types. The other Arab types, found mostly in North Africa above and about the desert belt, include the settled descendants of the offspring of Arab master and black slave; and the hillmen of the north and east, with their fine, clear-cut features; hardy stock, largely untouched by raiding elements because of their fighting qualities and their distant and unapproachable fastnesses. They are not Arabs proper, although they sometimes claim Arab kinship.

The pilgrimage to Mecca, from the north and west of Africa, through French West Africa, northern Nigeria, French Equatorial Africa, and the middle of the Anglo-Egyptian Sudan, to Suakin for the boat to Jedda, has engendered for centuries what is really more a Moslem than Arab strain. This has no doubt done much to develop the nomad and semi-nomad spirit found everywhere along this belt.

These peoples leave the baser calling of agriculture to the blacks, and regard the white man as an equal and not as a master, a trait which developed from the day they accepted Islam for their creed. They do not take readily to European standards. Nor do they necessarily think that Europeans are right. They hold with what is perhaps a more aristocratic attitude towards life in its baser forms. The tawdry glamour of civilization has no essential message for them.

Their noses are usually straight. Their lips may be thin or thick, the hair sometimes woolly, depending on the cross strain. Their skin is khaki, of almost any shade.

The Arab types may be classified into three kinds; nomad, or "people of the camel"; Baggara, cattle owners and semi-nomad; and the settled tribes, those permanently living near water and in villages along the river banks and about the lakes. Some of the tribes include all three types, such as the Kanaena of the Anglo-Egyptian Sudan. Two of the strongest and wealthiest camel-owning tribes are the Kababish and the Kawahla, rival tribes whose grazing areas extend over hundreds of square miles. The nomadic peoples live in their camel-hair tents as they pass from one grazing ground to another in search of water for themselves and their beasts. Semi-nomads have villages to and from which they return as they take their herds to seek pastures new. Hillmen and those of the plains vary their lives to meet local conditions. Those settled in villages find themselves in mud huts or straw *tukls*, dwellings about the size of a large

bell tent, with an opening often little more than a hole in the bottom. The hillmen, on the other hand, build themselves small houses of stone.

Other Arab types are the Maaza in the eastern desert, the Aulad Ali of the Delta, and stretching across Tripoli, the Harabi of the Fayum. The best-known Nubian tribe is the Danakil of Dongola, to which the Mahdi belonged.

Most of the Arab types wear the long flowing *abba* of the Arab and a *kaffiyak* on the head.

ally to the hills and the desert, which breed hardy peoples who are content with little addition to leisure and companionship. Near-to-nature beings, they spend their leisure talking by the side of their wells and streams; fighting if they get the chance; and find in the sport of intrigue, sweet breath of life.

The true Arab is an aristocrat among men, a gentleman in his rags. The poorest among them often has manners which would shame many a courtier.

The Upper Nile Tribes. The Upper Nile



ARABS OF THE NORTH SAHARA

1. A rich merchant. 2. A blind woman. 3. Boy camel driver.

Photos: H. Courtney-Brysson

The women wear either the rags of their masters or affect a dark blue or red. Most African Arabs, like their Arabian brothers and sisters, sit on the floor and eat with their hands.

The Arab types have little other industry than tending their flocks and herds, and the more primitive forms of agriculture, although there are, of course, exceptions. They know how to tan leather and fashion swords. Above all do they know how to do nothing. Primarily they are caravan leaders, until the towns claim them for primitive industries. This applies to most of the tribes in North Africa who own the many herds of livestock, all in poor condition and fetching low prices. The Arab types try to make both ends meet by the simple process of bringing them together. This applies gener-

ally to the tribes that find their livelihood about the upper reaches of the Nile and its tributaries. They include tribes like the Mittu, the Shilluk, Annuak, Jur, Dinka, and Nuer, among many others, some of them living a life almost impossible to believe—hunters, farmers, fishermen all, long since, and often, subjected to external influence. The most typical are the Shilluk and Dinka, tall black people with long heads, often with a strong Hamitic strain, with thin lips, fine foreheads, and high bridged noses. The Shilluk is culturally nearer the Hamite than is the Negro.

Shilluks have a dignity of their own, with little desire for European civilization or clothes or sugar, and with an almost fanatical respect for their cattle. Their attachment to their cows is so close that they are often more fond

of them than of their women, whom they will not allow to touch a cow, each one of which has its own name. As night falls the Shilluks will surround their beloved cows with fires that the smoke may keep away the mosquitoes, as they bed them down and wish them good-night. Among the Shilluks it is the men who powder and paint and weave their hair into fantastic shapes; it is the men who preen themselves, and display a strange vanity about their conceited faces. Yet they are not effeminate. Rather are they very much men about the village.

One has to talk to a Shilluk in his own tongue to learn of the depth of his tradition, a matter of over 400 years under an organized monarchy with a distinct religion. He has the appearance of being inherently lazy as he lies on the river bank, covered with ashes and the dung of his beloved cow, contemplating his long legs and doing the nothing to which he has ever been accustomed. Yet he has a great dignity in his nakedness, and is usually a well-ordered and rather fine-looking man.

The Shilluk king is not allowed to fight, and still retains much of his old authority and a bodyguard. He rules at Kodok (Fashoda of fame).

The Dinka wears no clothes of any description, and ekes out a pitiable existence in mosquito-infected swamps, far removed from the hand of the old slave trader who drove him there. His weapon is still the arrow.

Negro Types. Although the negro belongs to Africa as we know it, no negro skulls of any great age have been discovered there. Yet slate palettes of 5000 years ago show Negro captives with their woolly hair, similar to those now found in Kenya.

Some anthropologists think that the negroes entered Africa from Asia. Sufficient here that to Africa belongs the negro proper, although it is as well to recollect that even in Africa the term negro strictly belongs to the belt between the Equator and the deserts in the longitude of the Sahara, *bilad-es-Sudan*, land of the blacks, and has come to embrace a long line of bastards. South of that belt are all manner of dark coloured peoples. North of that belt the khaki coloured gentlemen of Arab extraction predominate.

The negro proper is distinguished by his countenance, black or dark brown skin, thick lips, broad pug nose and short woolly hair. His jaws project from beneath small, if prominent, cheekbones. The palms of his hands and

the soles of his feet are khaki. His arms are long, legs thin with small calves. He has broad, flat feet with a low instep. His skull is thick, often very thick, and long. These characteristics obviously vary widely with the tribe and its history. He is more like a child than a grown-up.

A few words about some of the main strains.

To the west and to the east of the Nile, hundreds of black tribes persist, distant from the beaten track. Among them are the Nubans (not to be confused with Nubians), who live in the hills about the middle of the Anglo-Egyptian Sudan. They wear no clothes of any description, women and men, where their brothers and half-brothers wear beads and the proverbial leaf, or the long flowing white clothes associated in history with the Arabs of the plains, the Bedouin, and the Dervish. It is no uncommon sight to come upon a native Nuban couple, the man wearing a rifle, his wife wreathed in smiles. A rifle means prestige in the eyes of the women-folk, who will have none of a man without a gun.

Some of the Nuban dances are fascinating, with remarkable rhythm. Shaking their shoulders and stamping their feet, warbling some weird incantation, they dance and carouse far into the night.

Among some Nuban tribes an unmarried girl wears nothing at all, but, as soon as she is engaged to be married, she wears a simple girdle round her middle, carrying a thin tail in front. When she is married she wears the full dress, a sort of bearded sporran with a thin tail behind. These dresses vary appreciably with individual tribes. The girls dress each other's hair with copper-coloured mud, to achieve a display of surpassing artistry. Their bronzed bodies catch the glint of the sun, to show off to perfection figures and deportment fashioned by the gourds of water they carry from the well each day. They sometimes paint European clothes on their naked bodies, to intrigue the occasional visitor.

Many hundred miles to the west of the Nuba Mountains, are the Hausas, a race of Negro-Arab type in Nigeria, of the Hamitic group but with a strong Semitic strain. They teach their children to read and write in the Arabic pattern and have been comparatively civilized for a long time. They are black, like most of the Sudanese, with long heads. Of medium height they are normally agreeable and cheerful beings. In all they number about 6,000,000 within the emirates of northern



LIFE IN THE JUNGLE

1. A native chief and his wives. Rich natives have as many wives as they can afford. 2. Negro Nile tribesmen. The Dinkas wear no clothes of any description and eke out a pitiable existence in the mosquito infested swamps far removed from the hand of the old slave trader who drove them there. 3. Almost universally it is the women's role to fetch and carry the water. 4. This river tribe had lost several members before they were able to capture their natural enemy.

Photos: Group Captain E. Howard-Williams

Nigeria. Farmers, agricultural and pastoral, they are developing into good artisans in all manner of semi-European industries. They are organized into tribes under Emirs or Princes.

The Hausas were never a great military race, although they developed considerable power. They live under the control of chiefs in organized villages, and may be considered one of the most homogeneous races at present in Africa. They worship an Almighty, some of them identifying the Sun with that Being.



THE RED SEA

A native fisherman holding the lines with his hands and feet while he idles under a sweltering sun at Port Sudan

Photo Group Captain E. Howard-Williams

The Fulahs, who also are of Nigeria, may have embraced the faith of Islam, but they are still pagan at heart. Good farmers and traders, they weave and spin cotton, and for centuries have mined silver, lead, tin, iron, and gold. By nature peaceful, they make fine soldiers, brave and of considerable strength.

The Jukun tribe remains among the most interesting in all Africa. The boys would be shown the sacred symbols before their shrine. They would then be led out to return blindfolded. The bandage would be removed and the boys would be asked what they could see. Unless they said "nothing," they were deemed to be unfit to be trusted with the secrets of the tribe, and were forthwith executed. Their king is almost a god who was, until recently,

ceremoniously sacrificed after seven years' reign.

The Hausas, Fulahs, and many other races show marked political ability, largely due to their contact with Islam, and later with the White races.

Another race of Negro type is one which gives its name to the French Senegalese troops which strictly belong to the Senegal River. Although the original Senegalese are of Negro stock, Moorish and Fulah interference, and that of Islam, have done much to corrupt the original peoples into what has, nevertheless, proved to be a fine race of fighting men. Their prime industries are breeding camels, cattle, and sheep; weaving; and now brickmaking; their agricultural life producing corn and coconuts.

The Europeanized or slightly educated natives in many parts of Africa have remarkable intelligence, and have developed well beyond the dignity of their nativity. At the ports, in the factories, and on the roads and railways, they are slowly learning the White man's languages, trades, and professions. Some go to schools and universities. Others, the sons of chiefs and sheikhs, learn the business of administration, and have been known to reach European standards. Their leisure they spend, where the facilities allow, in the cinemas, or at the races, huntin', shootin', and fishin'. Imitating their White masters, they aspire to a culture of which their blood brothers have not even heard.

It would be as wrong as it is ridiculous here to dilate on the customs of the large number of tribes which frequent the Sudan belt. Sufficient that they subscribe to all manner of fantastic habits which begin to fade where Mohammedan influence is strongest.

The degree of black influence, and its importance, varies from a mere handful to a great people like the Ashanti. The Dahomeys, for instance, had a corps of women soldiers, the so-called Amazons, originally criminals or wives taken in adultery. In battle they had an unequalled reputation for ferocity and courage. Their aim was to bring back trophies of the battle, torn from their enemies dead and alive.

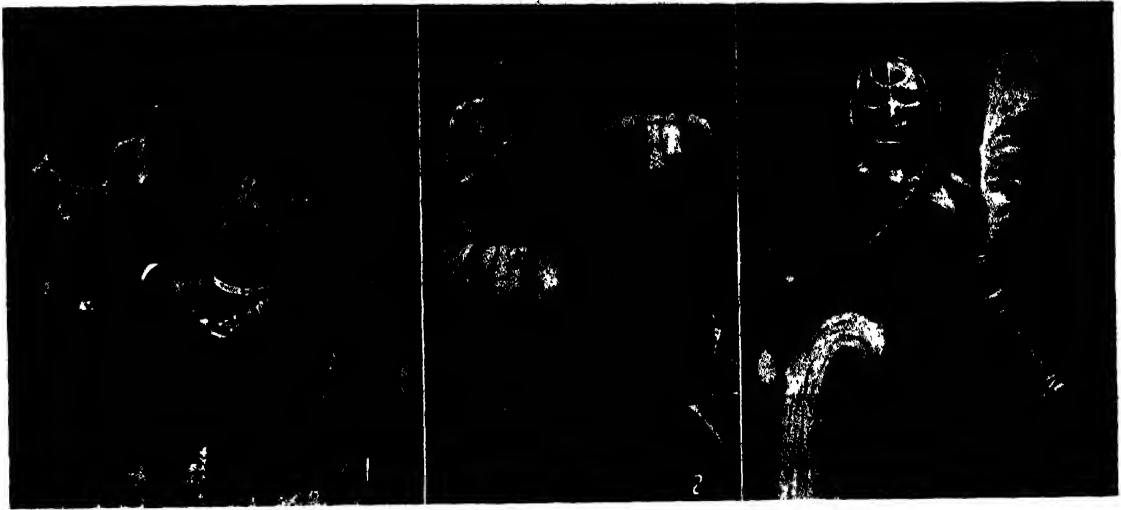
In the early nineteenth century, the reigning monarch decided upon an immediate increase in the corps, and gave orders that every girl in his domain had to come before him that he might decide if she were fit to go into his army. He would then swear her to celibacy,

apart from the royal prerogative, of course, when she would be granted the status of king's wife, who could not be touched without fear of death by torture.

Most negro tribes are beset with local traditions and customs. Their fondness of animals, like the dog and the hen, shows them as essentially a domestic race. It is often a matter of honour among many of the tribesmen to ensure that their chief shall be given sufficient food to enable him to honour visitors and to sustain his position. The average wages of

ing in wood, rope-making, and boat building. There is place, too, for him who can sing and juggle and amuse his kind, wandering minstrels. Many of the tradesmen, shoe-makers, tailors and leather-workers, go from place to place where those industries have a market.

The old woman of the African tribes is she who conserves the customs and wields an important influence over men and women alike. She instructs the children in the lore of the tribe while they are yet young, and sees to it that she builds up for herself an influential



BRITISH EAST AFRICA

1. A group of girls photographed in Tanganyika. 2. Two young men about to go courting. On their backs they carry a little woven stool, a drinking cup, and in their hands a short stick, to give to the girl they choose. 3. A warrior of the Kikuku tribe

Photos: Keystone, Topical; Wide World

the native are between a shilling and two shillings a day, where the native can be induced to work. The amount of work that they do is all too often as little as to justify this small wage.

Blacks, like the Arab types, for the most part like to spend their time trying to avoid work. Their role in life, as they see it, is merely to do the bare necessities. Bare describes their whole existence. With hoes or primitive ploughs drawn by oxen, but more often than not drawn by the men themselves, they scratch the earth to sow their corn or cotton. The closer they are in touch with their White masters, the more they find they have to work, from their point of view a bad business. The portage is usually done by the men, who carry goods, like tins of petrol, on their heads for long distances. Their leisure they spend in babbling and in sleep.

Among the many trades practised by Negroes are those of the smith, weaving, potting, work-

position and is held in esteem. In parts she may even reign as queen, like the old queen of the Ashanti who so vigorously resisted British influence.

Between man and wife labour is clearly defined, that the man performs the tasks demanding the greater physique, as clearing the bush or hunting or building or making roads; and the more responsible work of planning the community life and directing the policy of the tribe. The woman often does the work not only in the house but in the fields, sanctioned by tradition. Neither man nor woman would, in many tribes, openly do the other's work. Almost universally is it woman's role to fetch and carry the water and wood for the fires, cook the food, and often reap the crop. All day at work in the sun, the woman will return to her *tukl*, her child on her back, to prepare the evening meal and to care for her other children, perhaps to grind corn.

Despite these many tasks, and those of her men-folk, they all seem to find plenty of time to gossip amongst themselves, to go to the nearest village dance, and to romance to their children, much as we do.

A husband has a very real responsibility towards his wife, who has a strong claim on him. Above all, through the intense family life that normally persists, the wife has her children; as with her western sister a most important and tangible bond which protects her privileges and her happiness more than does any other. A native arriving late back for luncheon is met with much the same welcome as is an Englishman in his castle.

Wives are expected to obey their husbands. For disobedience or unfaithfulness, and for rowdiness, he may beat her and he may tie her legs together. Again, her family will usually take care to see that no insult is done them all by too rigorous or fault-finding an application of this inherent prerogative of the male. Marriage may sometimes be dissolved by the wife leaving her husband, or by him telling her to go. As in Europe, friends seek to bring them together. Where these efforts fail, they are pronounced separate and the local lawyers get busy. When quarrels occur, everyone does what is possible to avoid scandal,

all reasonable efforts being made to solve them by *palaver* (conference).

Rich natives have as many wives as they can afford, each often in a separate house and running a separate business, from the profits of which she supports herself, her children, and even her profligate husband. Where wives are in great demand, the marriageable age becomes lower, a tendency European officials are ever trying to check.

A man who marries more than one wife regards them as part of his wealth, and is respected according to numbers. Incidentally, many women prefer their husbands to take another wife, as it often means more hands to the field and mill, and leaves the first wife with a clearly defined dignity. The custom has an important application because, not only are there more women than men, but sometimes a wife has to be away with her own family in another village for months on end, due to some burial ceremony or other. Or her husband may be forbidden by local custom to go near her while she is feeding his child, often a matter of years.

It is usual in many of the tribes to betroth their children in marriage while they are yet young. The girl may from childhood know who is to be her husband. She will accept



WOMEN OF ANGOLA

Angolan women showing the white circular ornaments on their backs, family heirlooms of great sentimental value. The girls with the plaited cane rings round their legs have just reached marriageable age

Photo: Wide World



A ZULU GATHERING

A Zulu Impi marching to the tribal festival held in honour of King George VI in 1947

Photo: Central

presents from him. Her refusal to marry him at the appointed time would bring her into strong criticism from her tribe.

The woman usually belongs to the man. She may not do as she wishes. The man presents her case at law and usually during religious observances. As a result the man cannot commit adultery in the legal sense, but can claim damage to his property if anyone interferes with his wife.

Marriage is often a group matter, where one group or tribe will deliver one of its daughters to another group or tribe, for reciprocal favours. Sometimes a gift of cows or rifles will accompany the exchange.

Many Europeans think black girls can still be bought and sold. The African native is vehement in his protest against this, for most of their wives have prescribed rights which are not easily gainsaid. The money paid to them or their families is an essential part of the contract, much as we regard a marriage settlement.

By temperament Negroes are brave and cruel. Simple and sensuous, they lose their dignity in detail.

This explains many of their primitive customs, which quite recently included the sacrifice of humans, and witchcraft close-hauled to unbelievable suffering. They often have elaborate rituals, sometimes approaching black magic, within illegal secret societies performing atrocious acts. The present tendency is for these

secret societies now to be diverted into activities more profitable to the community.

Cannibalism is said still to preside in secret, far removed from the right hand of the administrator. Many tribes mutilate their bodies, notably ringing nose and ear, deforming the mouth, filing the teeth to points, or knocking out the incisors. Among a thousand barbarous practices are those of cutting great weals across the faces of boys and girls alike, a widespread custom, and intensive systems of tattoo on both sexes at all ages. Much of this tattoo work is designed to raise weals as much as an eighth of an inch and more out of the skin, in all manner of designs. The circumcision of boys and girls is a widespread practice among both black and khaki tribes.

Some of the tribes practice polygamy, the cost of the wives varying from five shillings upwards. In some of the tribes the men are shared out among the women, three men to one woman.

Their religion has no direct link with morality. Many of the tribal beliefs exist not as part of a moral code, but to explain the facts of life as the natives find them. Good and evil, important to Christian, Mohammedan and Jew, have not the same message for the pagan.

One of the extraordinary features of Negro native life in Africa is not only the variety in their customs and languages, dress, and even religions, but the extremes to which these lead. One tribe will wear no clothes at all, where

another, near neighbours, will bedeck themselves gaily and look upon undress as wanton. One tribe will regard laxity in the marital state with frequent pleasure, where another, stitchless, have an unbelievable regard for moral probity. Some tribes, apart from the detail of fantastic and frequently immoral rites, will make public demonstrations of their misbehaviour in the boast of a wanton faith, if faith it can be called; where another would

not time for these young men to be skilled in the domestic virtues. Custom and tradition decreed their role to be that of the warrior. The business of the house, tending the flocks, and reaping and sowing, naturally fell to the lot of those whom they existed to protect, the women and the old men. And the old men were too clever, and too busy being old men, to do more than see that the women worked to everyone's satisfaction.



PEOPLES OF THE KALAHARI

1. A dancing girl wearing full gala dress, consisting of apron and head-dress decorated with ostrich eggshell beads. 2. Bushwomen making the beads. The woman on the right is breaking the eggshell to bits with her teeth, the other is drilling holes before shaping the beads. 3. A witch doctor making string from the fibre of the sansivera plant. 4. A Mokalahadi girl of the eastern Kalahari.

Photos: Wide World

regard the slightest deviation from the perpendicular as an unwarrantable affront to both their dignity and their chastity.

In many tribes the men will sit and smoke as their women fetch and carry the water and loads and till the ground; while in others the women will watch and the men will work. The reasons for these curious anomalies are far-reaching. Some of the tribes, for instance, have for centuries been more subject than others to the threat of raids, by White slave raiders and black head hunters alike, or to the need of hunting and trapping for their livelihood. Thus it became a custom for the young men of the village ever to be on the alert and ready to play their part at the call of the head-men. Under these conditions there was

Whereas their distant neighbours may not have been subjected to quite the same threat. Perhaps they lived in a more secluded region among some foothills. Perhaps for generations they enjoyed the protection of some powerful and friendly tribe near by, of like blood, so that the men were not ordained merely for fierce motives; when the women, through successive generations, would be quick to see that their men-folk did not for long remain a nuisance about the *tukl*.

Another feature of many of these Negro tribes is the difference in tendencies which they have towards the married state. Some of them are required to have scalps at their girdle before they are deemed worthy of the tribal maidenhood. Others have to distinguish

themselves in battle, or are required to produce a cow or cows, or wear a rifle. Each and all, some merit has to appeal to the lady of their choice. Among the Abyssinians, the Galla, for instance, before he is allowed to marry, must get his man. He brings back the scalp and quietly, perhaps as dusk is about to fall, takes his place in the centre of the market square. Soon all the girls of the village are about him, putting butter in and pulling his

the day when the older man will not be strong enough himself to support the family.

Their weapons for agriculture are as primitive as the results, as they scratch what must be the most fertile soil in the world. In this they have one notably care-free habit. They burn the bush in order to provide themselves with new fields, reckless where the fire may end. They have found through experience that the ash of the bush acts as manure and



A SWARM OF LOCUSTS

When a cloud of locusts descends upon the young corn the improvident tribesmen awaken to the horrible reality that for the ensuing year the cupboard is entirely empty

Photo: Photopress

hair, when it is at his choice which bride he takes.

Remarkable points of the Negro are his physique and his dependence upon agriculture. Willing, he has the capacity for being made into a good soldier, is adaptable, and would appear to have many of the traits of the most pleasing examples of mankind, despite the record of oppression behind him.

His life, apart from agriculture, embraces hunting and fishing, looking after cattle, or paddling a canoe. The boys are taught their roles when, at about ten years old, they proudly accompany their father or a relation into the fields. Their next step is to work in a little field, set apart by the fathers for their sons to help them to be independent, and to anticipate

destroys vermin, besides making it easier to catch game. Thus each year they seek new fields, to the detriment of great stretches of African territory.

There is a great tendency for the natives to over-produce good crops. The cocoa crop and the groundnut crop are two that periodically bring levels of prices down below cost.

There is no doubt that as time passes the young Negro will tend more and more to take advantage of education towards European standards of civilization.

Many tribes in western Africa worship the earth as a god, offering sacrifices in due season, for agriculture has much to do with many of their religious beliefs and customs. Some tribes expressly leave the sowing of corn to their



ON THE LAND

1. A beehive in Kenya Colony. 2. Makalanga women with the gourds which are used for carrying to and from the fields. 3. Picking bananas in Kenya. The banana is the staple food of a large part of the population in central and eastern Africa. 4. A Masai shepherd of the Tanganyika plain armed with a short spear with which he guards his tribe's livestock from prowling lions

Photos: South African Railways; Photographic Publications; Wide World

women-folk, ascribing to them all fruitfulness. Many press the young men and women into the fields, ending the day's work with song and dance. Some even go so far as to employ a drummer for rhythm. Many of the tribesmen, both black and khaki, live by cultivating doura, a grain which provides them with both food and drink. With little sense for the future, only with difficulty can they be induced to save seed for the coming year. When the spring draws nigh, sight of the next crop in their minds, they turn what is left of the harvest into beer or spirit, with which they make merry as the young corn shoots upward

and their crop for the following year's orgies seems secure. There is no thought of drought. All is providence. And when a cloud of locusts descends upon the young corn, the tribe awakens to the hideous reality that not only is the cupboard bare but there is neither bone, dog, nor Mother Hubbard to save them.

In the old days the only alternative to death by starvation was a raid on some more or less fortunate neighbours.

Among the tribes which live in the regions infested with big game, the men are hunters all. They will go after anything, from a gazelle to an elephant, with a spear, a bow and arrow, or a rifle. They have their own methods of bringing down their quarry. Among two of the more interesting are the ringing of lion and the trapping of elephant.

For lion, the natives will form a circle, every man of the tribe taking his place in a ring up to ten miles or more in diameter, round the area where they know the lion to be. With loud cries and raised spears, they will slowly close in until, suddenly, the bewildered and thoroughly frightened lion will try to spring clear. To someone belongs the honour of throwing the first spear. Thus are the young men blooded in these piping days of peace.

Should the lion give fight, the natives near the one most threatened do their best to draw it off with their spears and to frighten it with noise, each hoping to have the honour of dispatching the lion. Eventually a spear will go home, and with it some young man becomes a hero for the day, all manner of favours before him.

They trap elephant by digging a pit, which they cover with brushwood. They then fell a large tree, around which they fix a rope with a noose. The noose is placed so that it lies all round the pit, into which the elephant will, they hope, step. A leg inside the pit, the noose

is tightened. The elephant is thus firmly lashed to a tree trunk, which severely hampers its movements and enables the natives to hamstring the wretched beast.

Villages may be anything from small mud huts sitting on the only dry land amid the squalor of swamp, to villages of the same kind of huts, owning allegiance to chiefs and to the native administration. Clothing may be anything from nothing to a rifle, a spear, a beard, a loin cloth, or the more fullsome robes they have seen the Arabs wear. The leaf is in parts the standard form of dress for the native débutante. Most natives have clear knowledge of the boundaries of their territory and the rights over the forests. It is usual for each tribe to be held responsible for the roads passing through its own territory. Most of this work is done without payment, considered as a form of tax, or to contribute to the dignity of the chief. As a rule, the labour is short in duration and is employed at times when the fields do not call for work.

Bantu and Kaffir Types.

The effect of Hamitic interference with the Negro and Bush races produced semi-Hamitic races which embody some of the features of one or other of the types which have gone to breed them. The Hamites, thanks to their greater culture, impressed themselves southward upon the black African population, through the centuries, to form races like the Bantu, who marched yet farther south against their weaker half-brothers.

Dignified, proud, and vicious, the Hamite proved himself a sturdy warrior, and of such hardy stock that, when crossed with the vigorous black tribes, he formed races stronger than the parent races themselves. As successive waves of pastoral Hamites overcame the agricultural Negroes, they enforced a higher culture upon their more aboriginal opponents. The result is seen in races like the Zulu and the Baganda, the Matabele and the Marotsi, the Bahima and the Bahera.



STRANGE DWELLING PLACES

1. Thatched huts raised on piles to protect them from flooding at Dakar. 2. Brick-built dwelling places in a Rhodesian native compound. 3. The Queen Mother's kraal at Lobamba, Swaziland. 4. Thatched reed huts in the village of Matahara in the rainy season when a great part of Ethiopia is subject to moderate flooding as shown in the photograph.

Photos: High Commissioner for Southern Rhodesia; South African Railways; Blue Star Line; Keystone

The semi-Hamites are tall, thin people, with long heads and faces, with distinct characteristics, normally leading both an agricultural and a pastoral life. Some of them are semi-nomadic and remain more or less naked, although many now affect clothes. These Bantu peoples drove the Hottentots and the Bushmen into the south-west of Africa, retaining the best soil for themselves. They stretch through south-central Africa to south-west Africa, organized in a large number of tribes generally resembling each other.

Usually black, khaki pointing to miscegenation particularly with Bushmen and Hottentots, their hair is woolly and short. Their noses are more often than not broad, with prominent cheek-bones and lips and forehead. They are essentially Negro in type, despite the distinct Hamitic strain. Among the Bechwana the



WEST AFRICAN BEAUTIES

Eight types of native women photographed in French West Africa showing the characteristic head-dresses and facial ornaments. Notice particularly the simple ear-ring of No. 2 and the elaborate aural ornament of No. 4 contrasted with the decorative rings shown in No. 6

Photos: Wide World

traits of the Bushmen are noticeable, skin light and face angular.

History recalls several instances where many of these tribes were able to unite to form a strong political community. Instance the Basuto nation and the Zulus. In their intimate life, the Bantus are usually organized in villages around a cattle enclosure in which they put their animals. Their dwellings are shaped like beehives, most of them with conical roofs, each with its own small garden wherein the women cook. The whole *kraal* is usually surrounded by a fence. They live on their agriculture and on the milk of cattle and goats. They do not kill their cattle, but rely upon hunting for their meat. Most of the tribes grow millet and maize, and occasionally vegetables like peas and beans. The men look after the cattle. The women work in the fields, often prohibited from touching the cattle by custom and religious observance.

The basis of their worship is sometimes the memory of their male ancestors, special attention being paid to those of the chief. Sometimes the ancestors live with the people, if that be possible, a portion of most things being reserved for them. Sacrifice and fire are part of this ancestor worship. The existence of taboos and witchcraft is among the many strange customs handed down from father to son, from mother to daughter. In Kenya alone, the natives possess upwards of 12,000,000 animals, cattle, goats, and sheep. Not until the natives look upon their cattle as goods for sale will they stimulate breeding. At present they regard them much as we regard stocks and shares.

The Zulus, possibly the cruellest black race in all Africa, are a Bantu people in the south-east, who left the shores of Lake St. Lucia in the early nineteenth century to roam over Natal, Southern Rhodesia, and Gazaland;

and from the Zambezi to Nyasaland and Tanganyika.

The Zulus or Ama-Zulus combined with other tribes such as the Ama-Xosas, to form the Zulu Kaffirs. The name Zulu came from a chief, Dingis Wayo, who founded the state at the close of the eighteenth century.

Swahili are a mixed Arab tribe of Zanzibar and Mombasa and the Rufiji. Due to their Arab influence they are Mohammedan, with a culture and enterprise that has made their language the chief medium of intercourse throughout east-central Africa. Although the language is of Bantu origin it has many Arabic words.

Linguistic criteria play an appreciable part when classifying the great racial groups of Africa. Thus, Bantu has a widespread linguistic significance south of the Congo-Nile Divide, and is the *lingua franca* of inner Africa. In Cape Colony these people are known as the Ama-Xosa, Slambies, Tambookies, Gaikas, Gcalecas, Fingoes, Tembus, and Pondos, although the term Kaffir is the generic term and means infidels or unbelievers, a description



A FULL-BLOODED SUDANESE SOLDIER AND HIS PET LEOPARD
Photo: Group Captain E. Howard-Williams



A TRIBAL RITE
Young Lumbwa girls dressed to participate in a religious ritual
Photo: Kenya and Uganda Railways and Harbours

given them by the Mohammedans around the shores of Africa. The Bantus are different from the aboriginal Bushmen and Hottentots, whom they conquered, about which more later. The Kaffir, properly Kafir, includes not only the Bantus of southern Africa, but also the black tribes outside the Kaffir group, such as the Bechuanas. The Basutos and the Mashonas, although of Bantu origin and called Kaffirs, are really separate peoples.

Many Kaffirs are more or less Europeanized, working in the mines and on the roads and railways as labourers and servants. In Cape Colony and Natal they are awarded citizenship. In Basutoland, Bechuanaland, and Swaziland, the original native kingships are still preserved. They have to pay a hut tax and a poll tax, and revenue taxes for their boots and shawls and blankets.

Kaffir chiefs have long exercised control through their marriage rules, for a man does not reach his full status until he is married, a happy state sometimes postponed for years in order to maintain the old Zulu military caste. They do not like marriages between blood relations. They allow the women to own property but not to inherit it. The job of the women, among others, is to cultivate



A NATIVE FAMILY AT PLAY

"The native of Africa is essentially a man, his wife as essentially a woman. To meet them in their happiness, surrounded by their children, even for a day is to meet charming people"

Photo Group Captain I. Howard-Williams

plots of fertile soil, to grow the sorghum from which they brew beer.

Their dress includes crude jewellery in the hair and round their necks. Thick-lipped, and mostly with flat noses, they carve wood and ivory and affect short skirts for work in the fields. They mostly wear few, if any, clothes and do the work of the farms and fields, tilling the soil and acting as servants to their many masters. They enjoy themselves in much the same way as do their black and khaki brothers. With many striking customs, they present a compromise between the extreme types which habit Africa, between the north whence they came and the south where they conquered.

Hottentots. The Hottentots, called Khoi-Khoi or Quai Quai, include the Namaquas, the Koranas, and the Griquas, as well as what are known as the 'Totties, and have long been the servants of their Boer masters. It is wrong to include the Hottentot with the Bushman, who was originally of a different stock, although they are to-day often well mixed. The Hottentot is slight, with distinct signs of Mongol strain. His yellow skin and slanting eyes, flat nose and woolly hair, throw back to two distinct lines of ancestors.

The Hottentots suffer a Hamitic interference with their basic language, which is similar to that of the Bushmen, largely monosyllabic, without prefixes and sex genders, but with suffixes, characterized by clicks rather like those used by grooms to encourage their horses. The Bushmen passed these clicks on to the Hottentots, and to some of the Bantu dialects.

The Hottentots have many of the same physical characteristics as the Bushmen. They

are taller, and unquestionably owe their separate existence to Bantu influence, gathered from invading Hamites whence they also gained both the language and cultural features which distinguished them from Bushmen. It is accepted that the Hottentots rose probably about the Great Lakes of Africa, and did not reach the south until after the Bushmen whom they had driven there.

The Hottentot at one time occupied most of the western part of southern Africa, from the Kunene River in the north, to the Cape, extending inland to the Kei River, although he is now mostly found only in the south-west of Africa, north of the Orange River.

They form a race which is slowly disappearing. Their customs and beliefs survive but faintly. The best-known tribe is that of the Naman, which consists of several tribes owing allegiance to a separate chief traditionally descended from one ancestry. These tribes claim certain water sources as their property, and used to wander with their cattle from one to the other in search of new pastures. The chief owes his authority to hereditary influences, and relies upon the elders of the tribe to help him govern. Although tribes may camp together, they cannot claim to be organized. Their order is based on the family system.

Bushman and Hottentot differ in that where the Bushmen are primarily hunters for game and food, the Hottentots are part of a pastoral race owning cattle and sheep. They manufacture spears and arrow-heads, make beads and vessels from wood, and weave mats and baskets from reeds and rushes. They make bags from skins. Their culture is superior to



THE BUSHMEN

A family group in front of the reed huts of a Bushman village showing children being trained in the art of the bow and arrow

Photo: Wide World



AFRICAN TYPES

1. A warrior of the Bakgatla tribe, Bechuanaland. 2. A South African war dance. 3. A Mubudu woman smoking a pipe the stem of which is made of the rib of a banana leaf. 4. A woman carrying her child to market at Bathurst.

Photos: South African Railways; Union-Castle Line; Wide World; Topical

that of the Bushmen, although they do not paint or carve rock; an art at which the Bushmen excel, strange throwback perhaps to the ancient Egyptian slaves.

The Hottentot lives mostly on milk, which he keeps in pots. The women do the milking, not the men, as in the Bantu tribes. Their diet includes vegetables, roots, berries, and the melon. They hunt and trap like their kith the Bushmen, although the Hottentots have more elaborate snares and no longer use the bow and arrow. They are beginning to take to agriculture, and are slowly losing their nomadic tendencies, finding the permanent camp more to their taste.

Their camps are usually closed within a *kraal*, their huts arranged inside, cattle in the centre, with special places for lambs and calves.

The Hottentots formerly wore skins, but they are now taking freely to European clothing. Both sexes wear copper trinkets and paint their bodies with ochre. The women wear beads and strips of oxhide about their legs, the men armlets of copper and ivory.

Hottentots are married under arrangements made by the parents, custom decreeing that the girl's parents shall pretend to refuse to deliver their daughter until after the boy's parents have exercised an adequate persuasion. During their engagement boy and girl may not communicate with one another except through the family. At marriage the bridegroom's parents provide the feast, to which the bride's parents sometimes contribute. On the wedding day, the husband and wife will sometimes each present their mothers-in-law with

a cow to acknowledge that she nourished the boy or girl as a child. The bride is received into her husband's family at a feast at which only married women take part—to receive the girl into the community of married women.

In the past the custom was to abandon old men and women to die from want. Now age is respected. Many of their customs are similar to those of the Bantus. At all times is a brother required to exercise respect towards his sister.

There are many ceremonies at the important phases of life, such as birth, puberty, marriage, illness, and death. To pass from one of these transitional phases to another, the individual has to undergo a period of trial, when he or she may be subject to a form of tattoo, or cleansing, or taboo. Animals may be killed to placate a suspected enemy until, in time, the new status has received the approval of the pseudo-religious arbiter. These traditional rites forbid the person to touch water, which has a special sanctity for the Hottentot through his respect and use of the desert.

The Hottentots wrap their dead in skins, which they sew together, wailing outside the *kraal* at night and until the body is buried the next afternoon. When the grave is dug, a small recess is made to one side. In this the corpse is placed on its back, the head turned towards the west. The recess is covered with bushes and a stone slab. A mound is shovelled over the grave, on which everyone present throws a stone or a twig.

Hottentot mythology includes the worship of heroes endowed with supernatural powers.



DARK MAGIC

Above: Wakiss, or spirit dancers of Angola. These itinerant dancers visit the villages representing the spirits of the departed and make the occasion for a dance and feast. *Below:* A girl of the Ivory Coast hypnotized before becoming the subject of one of the African jugglers. The brass anklets shown on the girl's legs weigh 15 lb. each and are welded on for life.

Photos: Wide World

Bushmen. Bushmen are the aboriginal people of the southern part of central Africa, now confined mainly to the Kalahari Desert,

although they once went as far north as Tanganyika, a fact disclosed by the discovery there of rock paintings and typical digging stick weights. They are known as Bosjemans, i.e. Bushmen, although they call themselves Sann or Zann. They are now so reduced in numbers, and so ex-bred, that the race is rapidly losing its main characteristics, watered down by constant cultural contact with the Bantu types. The Cape Colony group is already almost extinct.

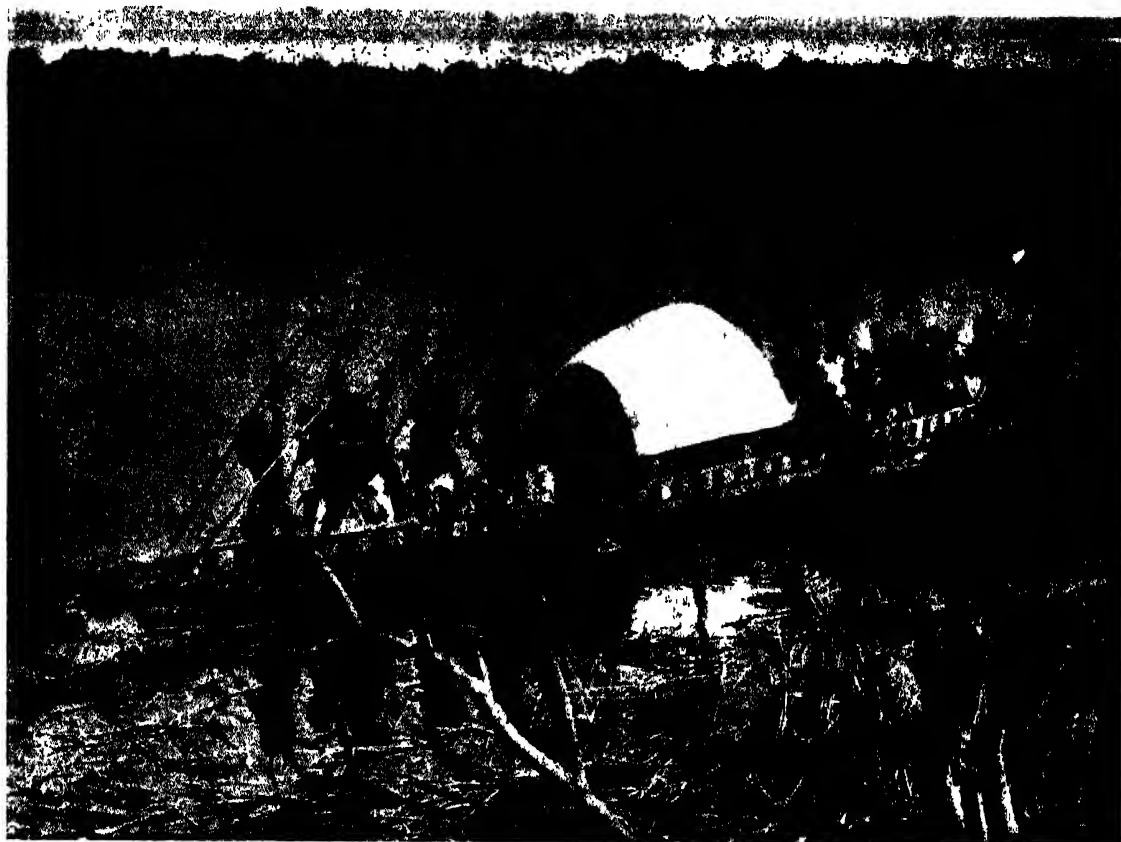
The Bushmen are slowly receding from an Africa which was once mostly theirs. Stronger Hottentot and Bantu neighbours have won the cultural battle against the less intelligent and more primitive aboriginals of an ancient race which will soon be exterminated by the relentless march of primitive civilization. Bushmen are a rapidly disappearing people existing in the least fertile areas, victims of the progress of their better organized neighbours. At one time they were at everyone's mercy. Although they now have nothing to fear physically from their neighbours, they seem unable to take advantage of the improved situation.

They are inferior to Negroes in numbers, culture and organization, and are essentially nomadic. The restriction of the areas available for their carefree pursuits has contributed much to their oppression, initiated by the Hottentots who nearly wiped them out. Later, both Hottentots and Bushmen were restricted still further by the European advance from the south and by the advent of the Bantus from the centre.



A CONGO VILLAGE

Photo: Union-Castle Line



IN NORTHERN RHODESIA
A chief's state barge on the Zambezi
Photo: Central

The Bushman is short, usually about five feet high, of slight build, with small hands and feet. He has a yellowish skin, which wrinkles readily, and has little hair on his head, which is low in the crown. He has a flat face with a flat nose and prominent cheekbones below a bulging forehead. Narrow of eye, often slanted, he often has exaggerated buttocks. Where he gains in stature and has a darker skin with a larger head there is record of his relationship with tribes of Bantu blood. A race of insignificant men, they make fine hunters, with a rare ability to use the bow and arrow in the sparse bush to which they properly belong. At the bottom rung of the ladder of human society they have little property or religion. They wear no clothes save a short loin cloth, which hangs in front from a girdle about the middle. Their ornaments are crude and curiously fashioned, and hang about the necks of the women.

They are a cheerful people, fond of dancing, which has both a social and a religious significance. They are masters at impersonation,

able to reproduce the likeness, mannerisms and cries of the human beings and animals they wish to masquerade. In the Herschel district of Cape Colony a well-known rock painting depicts a Bushman wearing an ostrich skin and stalking ostriches. They sing gaily, tunes difficult for a European ear to appreciate. Their art includes paintings and engravings on walls and caves and shelters, and is primitive but often correct in perspective. Their subjects are usually the hunt, dances, or religious scenes, in which a human figure with the head of an animal is well to the fore.

The Bushman is a being with little culture or social organization, living in small groups joined together to form a tribe which hunts in small independent bands divided into families. The leaders or chiefs of the bands are usually hereditary but have little influence.

They are neither agricultural nor pastoral. They live by hunting game and for roots and vegetables, and have game rights which they respect among each other. They live in rude shelters made by branches cut from trees.



MARRIED LIFE

A Pygmy couple. The Pygmy people show a high order of intelligence. They practice a kind of trial marriage system, whereby they live together for a year and then either divorce or must stay together for the rest of their lives.

Photo: Wide World

Each family plants its own shelter near a water-hole. They hunt with the bow and arrow, using a poisoned barb, and obtain the poison from skins and plants, or from the grub of the chrysalis of a small green beetle. Some tribes hunt with spears and throwing-sticks, and with traps and snares.

It is the women's task to obtain the vegetables, for which they use a pointed digging stick. Bushmen light their fires with fire-sticks, sharing their food among all who are present. He who kills a beast retains the skin to clothe himself and his family. Snaring for skins is not an important pastime, for they wear practically nothing, the men a kind of three-cornered bathing slip tied round the waist, the women small aprons in front and behind. For special occasions they fashion themselves cloaks of skins sewn together.

Generally, the Bushman is monogamatic and forbidden to choose his bride within the tribe. Some tribes insist that the bridegroom should shoot a buck and present it to the bride's family for the wedding breakfast. It is customary for the young married couple to spend their first months with mother-in-law.

Normally, the children belong to the father. If he dies, the woman may marry again and present the second husband with a ready-made family. Should the widow not marry again she looks to her husband's brother for support. It is usual for brothers and sisters to avoid each other when grown up.

Children are usually born in the bush, and are nursed by their mothers for three years or more. It is still a practice for a second child, born before the first is weaned, to be killed at once, which in part explains the small families and the gradual diminution of the tribes.

When the Bushman dies he is buried near his hut in the position of sleeping, on his side, knees drawn up. With him are placed all his belongings. Over him are laid stones to keep away the animals. The band then moves elsewhere.

Medicine men and witches regulate the important functions of rain-making and the initiation ceremonies. They are the doctors, their waning influence restricted to casting out the devil.

Bushmen spend their leisure in either doing nothing or in wild ways. They live an indeterminate life, as near to nature as it is possible for human beings to contemplate.

The Dwarf Races. The dwarf races, Pygmies or Negritos, as they are sometimes named, are well typified by the African Akkas, their height being about four feet, smaller than the dwarfs pictured at Pompeii, Rhodes and Cyprus. They roam the dense equatorial forests. The Obongo, and the Dwarfs in the Congo and Uganda, are not unlike the Dwarfs of Ethiopia, heavy of head, thick lipped, twisted legs, all part of a human group of which little is known.

Their skin is normally a yellowy brown, sometimes dark. Their bodies are often covered with fine hair. They have broad, flat noses, with little bridge, beneath large eyes. Their faces are broad. They live in small communities of about fifty huts standing in a clearing in the forest. Their weapons are the bow and poisoned arrow. Hunters and trappers all, they are looked upon as a vicious race, although they appear to live on good terms with the

people about them. Mostly they wear no clothes save a short kerchief hanging from the waist.

Appreciation. One has to travel among these delightful black peoples to realize the charm there can be in the simple life. Among their own communities, in their rude dwellings, with little taste for either civilization or its allurements, these naked native men, women and children, present a front to life which seems to the onlooker to be unbelievably happy. They live mainly in the sun for long periods of the year, under conditions which know few of the worries that beset most of us, their own families and peoples for ever close about them. A locust cloud, or too blue a sky for too long, can bring hard times. In parts they still have their traditional enemies, among other tribes, which has for centuries ensured that the young men shall be worthy of the name of manhood.

In conclusion, may it be said that the civilization, customs and habits of the majority of the simple native tribes in Africa are basically similar to many of those on which we in Europe found our own civilization, particularly where they affect family life. Some of their strict marriage customs, beliefs in religious ordinance, agricultural and pastoral pursuits, and crafts,

resemble much that is done somewhere or other by their White brothers.

The native of Africa is essentially a man, his wife as essentially a woman. To meet them in their happiness, surrounded by their children, even for a day, simply tending their fields and flocks, under a warm sun, without clothes or guile, is to meet charming people.

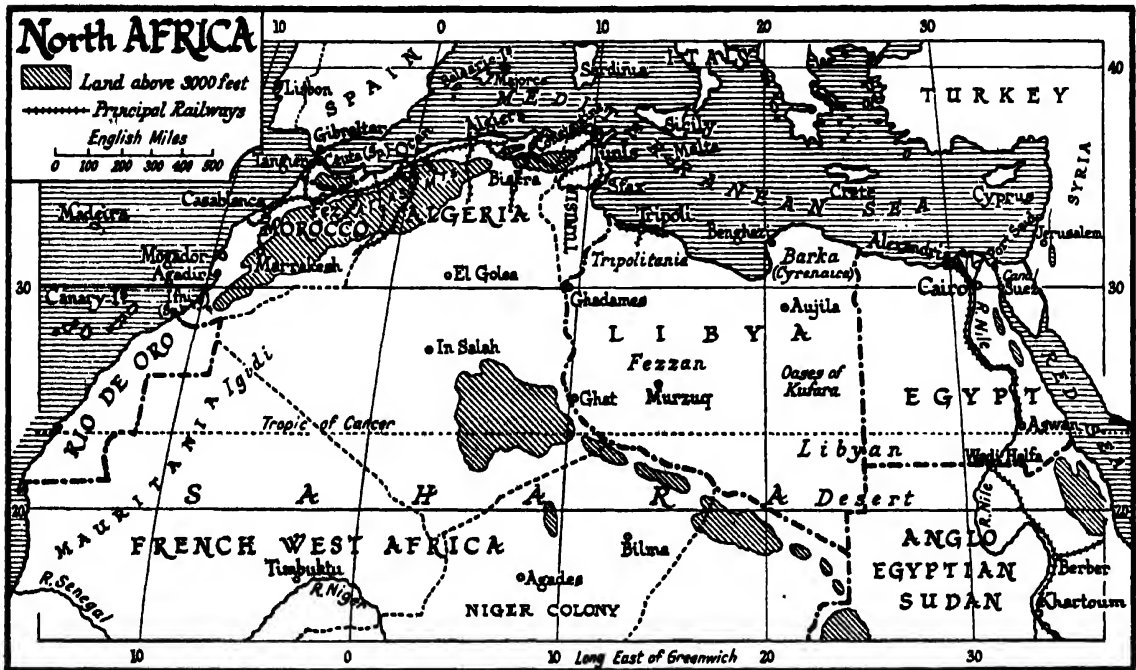


THE BUSHMEN AND THEIR ART

Above: A fragment of a Bushman drawing found in a Natal cave. *Below:* A group of women and children

Photos: South African Railways

NORTH AFRICA



North West Africa

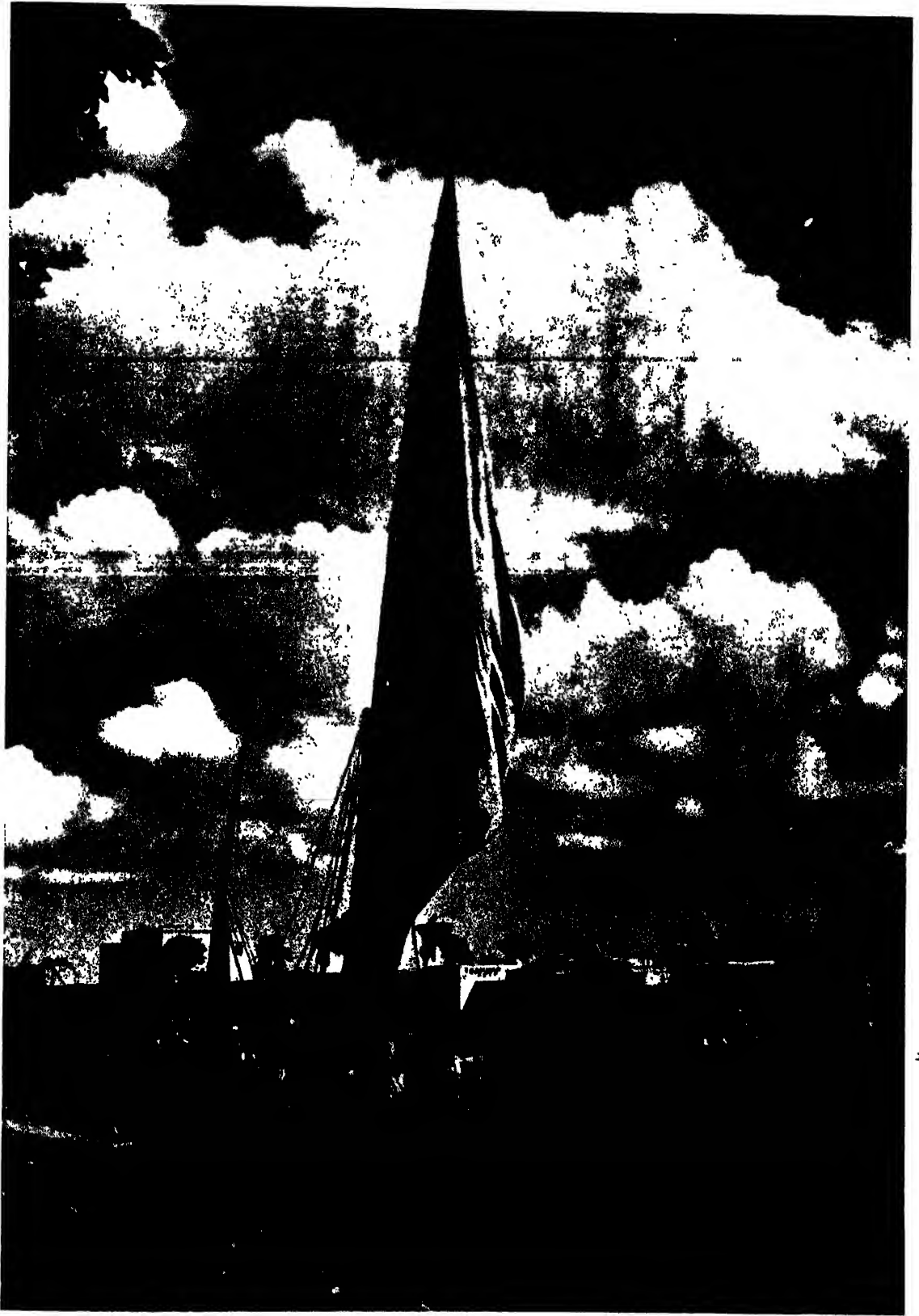
THE territories of North West Africa, stretching from the southern boundaries of Rio de Oro to the Egyptian frontier of Libya, are extremely fertile in the coastal regions. The wide sweep of the Atlantic coast is unbroken by deep indentation, but, in the Mediterranean, the gulfs of Qabès (Gabes) and Sydra break the monotonous line of the north coast of Africa.

The flatness of the country is broken only by the Atlas Mountains, rising in places to 12,000 feet, and ranging from Cape Nun in the west to Cape Bon. A number of small streams are directed by the watershed of the Atlas range, the majority flowing to the coast and some few southward to exhaust themselves in the desert. There are rich coal deposits in the mountains, and there is reason to believe

that there exist also considerable quantities of gold, copper, tin, nickel, iron, and sulphur.

Inland from the Atlas Mountains, the country merges into the Sahara Desert. Though elevated above the surrounding country, the Sahara is never at a great height above sea-level, except in the central Ahaggar plateau and the Tibesti highlands, and in the east where it rises gradually to form a high and broad plateau.

Morocco. Morocco comprises approximately 175,000 square miles. The country is generally mountainous, being crossed in the north and south by five ranges of the Atlas Mountains. Between these ranges there are well-watered highly fertile plains. The fertile region west of the Atlas Mountains contains 78,000 square miles, and upland pastures are



VILLAGE BY THE MAHMOUDIEH CANAL, ALEXANDRIA

Photo: Thos. Cook and Son, Ltd.

estimated at 27,800 square miles. The remainder of Morocco is either mountain or desert land. Characteristic features of northern Morocco are rolling hills and monotonous plains, green in spring and brown during the summer and autumn.

Morocco is divided into three zones, the French, the Spanish, and the Tangier, which is international. Dimensions of the zones are as follows: French, approximately 161,500 square miles; Spanish, approximately 13,125 square miles; Tangier, approximately 225 square miles.

French Zone. This comprises nearly the whole of Morocco, from the Atlantic to the Algerian frontier, and from the confines of the Sahara to the boundary of the Spanish zone. It is estimated that the population is about 7,980,000 native Moslems, 200,000 native Jews, and 320,000 foreigners, making a total of 8,500,000.

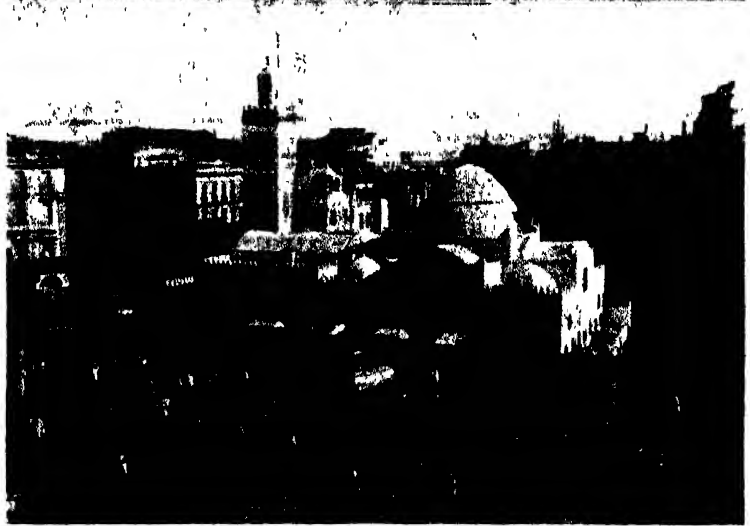
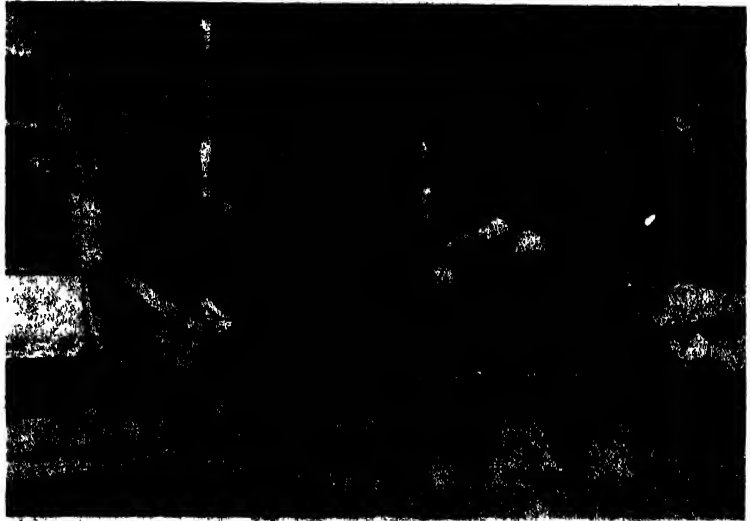
Agriculture is by far the most important industry. The principal crops are cereals, in particular wheat and barley. Beans, chick-peas, canary-seed, linseed, olives, vines, almonds, oranges, lemons, walnuts, and figs are grown in quantity. Trees cultivated include the cork, cedar, arar, argan, oak, and conifers. The raising of cattle, sheep, goats, pigs, horses, mules, asses, and camels is also important.

The principal mineral exploited is phosphate, the output of which has grown rapidly. Other important minerals are lead, manganese, cobalt, and molybdenum. Iron, tin, antimony, and zinc are also mined.

Fishing is carried on to a considerable extent around the coasts, in particular near Casablanca (Dar el-Baida), and Fdala (Fedhala), which latter also has a preserve industry.

The Sultan's Capitals. Imperial residences are at Fes (Fez), Meknes, Marrakesh (better known as the city of Morocco), and Rabat.

Fes. Situated in a deep valley 100 miles



CITIES OF ALGERIA

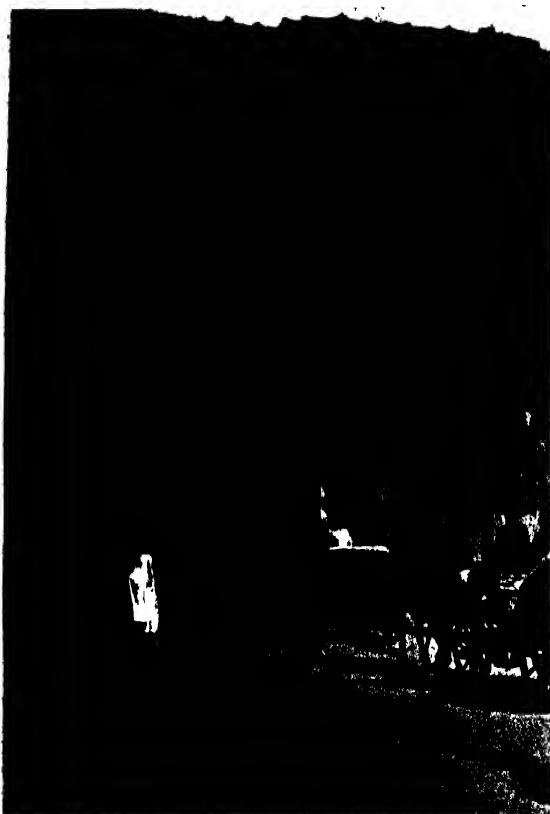
Above: The Market and principal buildings of Beyrou. Below: Government Place, Algiers

Photos: Blue Star Line; Orient Line

east of Rabat on the Atlantic coast, conducts an extensive caravan trade with the interior, and is noted for its manufacture of woollen cloaks, silk shawls, and handkerchiefs. Population, 200,900.

MARRAKESH. Five miles from the left bank of the Tensift, and 1447 feet above sea-level, the city commands the trade routes across the mountains. It is surrounded by a dilapidated wall, between twenty and thirty feet high, which encloses a tangle of narrow, crooked streets, market places and gardens. Population, 238,000.

MEKNES. Situated a little to the east of Fes, it is the Sultan's summer residence. It has a pottery industry. Population, 160,000.



ROMANESQUE ARCHITECTURE

The gateway of Marrakesh and the horse-drawn carts which are still the principal means of transport

Photo: Norddeutscher Lloyd

RABAT. The headquarters of the French control in Morocco, manufactures leather, carpets, and rugs. Population, 160,400.

CASABLANCA (Dar el-Baida). The largest seaport of Morocco, it handles almost half the foreign trade. Population, 551,300.

Other Towns of Morocco. **FDALA** (Fedhala) accommodates vessels up to 4000 tons, which supply oil storage stations. **AGADIR** was opened to commerce in 1930 and a port is projected.

Spanish Zone. The Spanish zone, or Er Rif, comprises the coastal districts of northern Morocco, with the exception of the small area around Tangier which is included in the international zone. Agriculture in Spanish Morocco is carried on by the natives in a primitive fashion. Principal crops are wheat, barley, straw, beans, olives, and maize. European colonization is confined almost entirely to the towns. A census taken in 1945 gave the population of the Spanish zone as 1,082,000, including 72,184 Europeans and 14,196 Jews.

Iron-ore is mined and exported from the Melilla district. The bulk of the trade is done through Ceuta (population, 70,000), Melilla (96,000), and Tangier. Other towns of size are Tetuan, the capital of the Spanish zone (93,658), El Araish (Larache) (41,286), and Alcazarquivir (35,786).

Tangier Zone. This is the area surrounding the town of Tangier which is an important seaport. It is near the western side of the Straits of Gibraltar. There are few manufactures, but the town is the centre of the export trade of many parts of Morocco.

The agricultural output is principally of wheat, barley, and chickweed. There are also fisheries and preserving factories.

The population of the Tangier zone is about 100,000, made up of 36,500 native Moslems, 16,500 Europeans, and 7000 native Jews.

Ifni. Ifni is a Spanish enclave on the Atlantic coast of Morocco. It extends from Wad Nun in the south to Wad Bu Sedra in the north, and for a distance of fifteen miles inland. The area is 741 square miles, and the population 35,000. There are several small harbours and villages. The population engages in fishing and in cultivating dates and garden produce.

Algeria. Algeria, an integral part of France, is divided for administration into Northern Algeria (80,117 square miles) and Southern Algeria (767,266 square miles).

The mountain area is generally better adapted to grazing and forestry than to agriculture, and large tracts are covered with cork-oak trees, pines, evergreens, oaks and



A SNAKE CHARMER OF MOROCCO

Photo: Norddeutscher Lloyd

cedars. In spite of the many excellent roads built by the French authorities, a considerable area of the Atlas Mountains is without adequate means of communication and is accessible only with difficulty.

Near the coast there is a belt of from fifty to 100 miles wide, being the most fertile and populous region, known as the Tell. This fertile area is mostly owned by Europeans. It is cultivated scientifically, yielding profitable returns from the vineyards and from the cultivation of cereals. The area under cultivation is approximately 15,600,000 acres. Chief crops are wheat, barley, oats, maize, potatoes, artichokes, beans, peas, and tomatoes. To a lesser extent, tobacco, flax, and silk are cultivated. Nearly 1,000,000 acres are given over to vineyards, dates, bananas, figs, and other fruits. There is a considerable amount of breeding of cattle, sheep, goats, camels, horses, mules, and pigs.

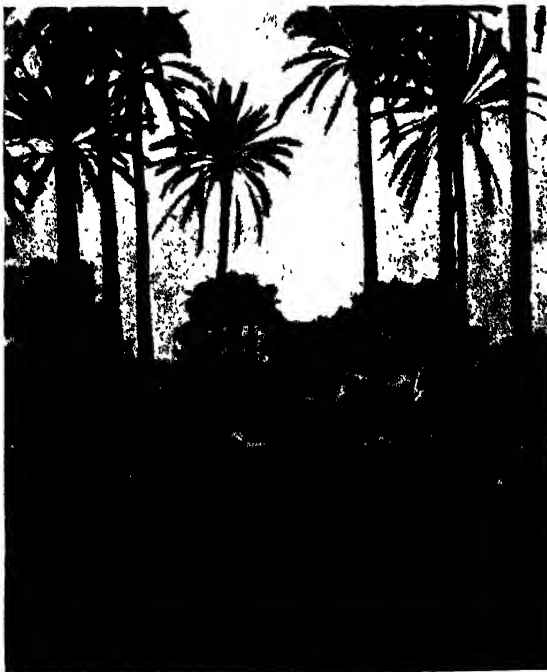
Algeria possesses deposits of iron, zinc, mercury, copper, and antimony. The Mediterranean fisheries are important, and include profitable sponge and coral industries. There are extensive factories for sardines, allaches, anchovies, sprats, tunny fish, etc.

The population in 1948, including military forces, totalled: Northern Algeria, 7,859,000; Southern Algeria, 816,990.



ALGIERS

A street market in the old town
Photo: Orient Line



CAMELS IN AN OASIS
Photo: Norddeutscher Lloyd

Of the European population, about 80 per cent are French. The native population is entirely Mohammedan. The Jews are regarded as French citizens.

The Towns. ALGER (Algiers). The capital city has a population of 315,200. It possesses a university and special schools for commerce, the fine arts, hydrography, and agriculture. It is an important seaport and fuelling station, and is much frequented as a health resort. It exports flour, esparto, wine, olive oil, and fruit.

ORAN. The centre of a considerable trade with southern Europe, this town has a population of 256,660. Other towns include CONSTANTINE (118,770), BÔNE (102,800), BLIDA (61,600), PHILIPPEVILLE (57,000), TLEMSEN (69,660), and MASCARA (35,000).

Tunisia. Tunisia, a French protectorate, lies between Algeria and Tripoli, and extends southward to the Sahara, with a total area of about 48,300 square miles. The boundaries

are on the north and east the Mediterranean Sea, on the west the Algerian province of Constantine, and on the south the great deserts of Sahara and Libya.

The north is characterized by mountain formations, with large and fertile valleys, such as the valley of the Medjerdah, and the plains of Mornag, Mateur, and Beja. In the north east and the peninsula of Cape Bon, the soil is specially suitable for the cultivation of oranges, lemons, and other citrus fruits. The centre is a region of high table-lands and pastures. The south is famous for its oases and gardens, where dates grow in profusion.

Almost half the territory is cultivated or given over to forestry. Wheat and barley are produced in substantial quantities, and olives are cultivated on a large scale. Other produce includes dates, almonds, shaddocks, pistachios, alfalfa grass, henna, and cork.

By far the greatest recent development has taken place in the production of phosphates. In 1950 a total of 1,525,000 metric tons of phosphates was produced, and the capacity is even greater. The production of iron was 738,000 metric tons, and a quantity of lead was also mined. Native industries are the spinning and weaving of wool for garments, carpet weaving, leather embroidery, saddle making, slippers, pottery, and matting. Fisheries, which are in the hands of Italians and Tunisians, have some importance.

According to the 1948 census the total

European population was 239,552. Well over half of these were French civilians, and of the remainder all except about 4000 were Italians or Maltese. The total native population was 2,991,400, of whom 2,919,860 were Arabs and Bedouin, and 71,540 were Jews.

The Towns. TUNIS, the capital, is directly accessible to ocean-going vessels by means of the channel opened in 1893. Population, 370,300. Other towns are BIZERTA (population, 39,300), SUSA (36,500), SFAX (54,600), and QAIRWAN, the old Moslem capital (32,300).

Libya. Libya, an ex-Italian dependency, bounded on the north by the Mediterranean, on the east by Egypt, and the Anglo-Egyptian Sudan, and on the west and south by French territories, has an area of approximately 420,500 square miles, with a hinterland zone of about 212,000 square miles.

After the expulsion of the Germans and Italians during the course of the second World War the territory was placed under joint British and French administration. In 1951 Libya was proclaimed an independent kingdom.

Although the greater part of Libya is either desert or sub-desert, the territory has districts which are most fertile and valuable. Nearly 20,000 square miles are most suitable for agriculture, and the oases along the coast rank as the richest in North Africa. Here thrive date-palms, olives, oranges, and all the range of Mediterranean plants. In the mountainous district of Jebel el Akhdar, and on the



LOCAL TYPES

1. A barber of Marrakech. 2. Carpet makers of Algiers. 3. A potter of Morocco in his workshop

Photos: Orient Line; Blue Star Line; Norddeutscher Lloyd



BEDOUIN ENCAMPMENT

Photo Norddeutscher Lloyd

fertile slopes of the Msellata hills, figs, olives, vines, and other fruits, grow in abundance. The steppe district is suitable for the cultivation of wheat and barley, and extensive tracts are under pasture.

In addition to agriculture and fruit growing, sponge-fishing and tunny-fishing are of great importance, tobacco is a leading product, and others are salt, matting, carpets, leather goods, and embroidered fabrics.

According to a 1950 estimate, the population consists of about 1,100,000, nearly three-quarters of whom are in Tripolitania. The

majority of the native population are Mohammedans.

The Towns. TRIPOLI, the principal city and seaport, has a population of 140,000. It is a caravan centre of importance. Chief industries are connected with carpets and tobacco. BENGHAZI, also an important seaport and, since 1952, joint capital with Tripoli, has 60,000 inhabitants. Other towns are MISURATA (60,000), and DERNÄ (16,000). Inland are the caravan halting places, Ghadames, Sinaucn, Mizda, Murzuk, and Ghat.

Egypt

EGYPT is a small country, covering little more than 380,000 square miles, most of which is waste land, such as the Libyan and Arabian Deserts, large tracts almost useless so far as man's needs are concerned. In fact, the amount of territory suitable for cultivation covers little more than 13,000 square miles, less than double the area of Wales, and practically all of this is restricted to the immediate vicinity of the Nile and its delta. This delta, which has a length of about 160 miles from north to south and extends from Alexandria to Port Said, a distance of 155 miles, is the richest agricultural land in Egypt; its alluvial soil, nearly seventy feet in depth, is irrigated by the two arms of the Nile known as Damietta and Rosetta.

A strange feature is that Egypt contains not a single forest. Exotic trees have been planted within recent times, but suitable land is too

valuable for agricultural purposes to be given up to forest.

Geographically, Egypt is bounded on the east by the Red Sea, Israel, and Arabia, on the north by the Mediterranean, on the west by the kingdom of Libya, and on the south by the Sudan. Its total population according to a 1950 estimate was 20,439,000 of whom 14,000,000 are Mohammedans and over one million Copts.

Present Value in Ancient History. In spite of its small size, few countries have a more wonderful ancient history and few have left more remarkable monuments as evidence of their past civilization. To-day these unique buildings are a source of wealth to the people of the country, as shown by the importance of the tourist trade, and certainly there are few, if any, places which stir the imagination of the visitor to such a degree.



THE COLOSSI OF THEBES

Photo: Thor. Cook & Son, Ltd

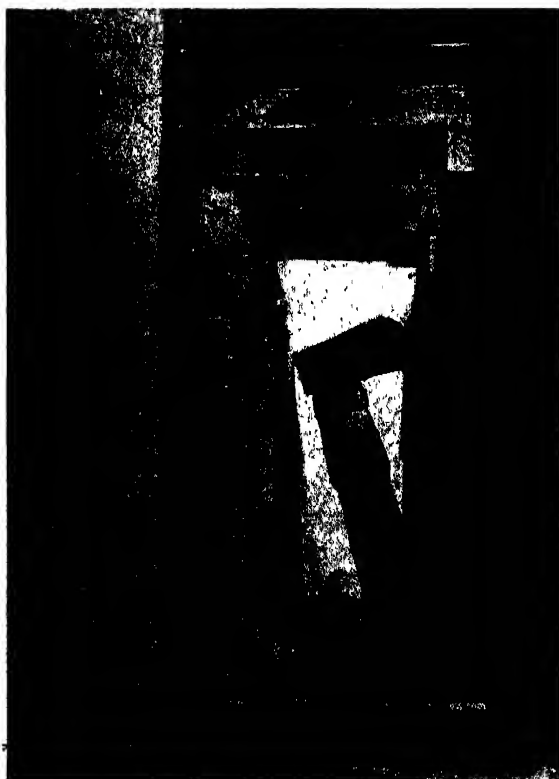
Alexandria. The capital of Egypt as far back as 332 B.C. and for 1000 years after was Alexandria, on the Mediterranean. It must have been a truly wonderful city with, as Caliph Omar said after taking it in the year A.D. 40, its 4000 palaces, 4000 baths, 400 theatres or places of amusement, and 12,000 shops. Yet to-day but little remains of this great capital, while the modern Alexandria, important, but not nearly so impressive, stands a short distance to the west of the westerly mouth of the Nile and has a population of over 900,000. In appearance it is more continental than Oriental.

Cairo. The present capital of Egypt is Cairo, the largest town in Africa. It is situated 120 miles south-east of Alexandria at the beginning of the Nile Delta, and has a population of about 2,000,000. It is a truly cosmopolitan town. Africa, Europe, and Asia are all represented in its long irregular streets and fine boulevards, where almost every language may be heard. The architecture, while largely Egyptian or Oriental in some of the more important buildings, such as the Citadel, built in 1176 by Saladin, is a strange mixture of styles; from old native structures with their great heavily studded doors and green shut-

tered casements, reminding one of the Arabian Nights stories, to the most modern forms of both Oriental and European buildings. It is a city that must be seen to be properly appreciated, because it is unique in its way. No wonder that it is overrun by tourists, for there is so much to be seen: there is the Museum, with its priceless treasures from Luxor and other ancient places, the interesting and well-kept zoo, and so many other things, while not more than eight miles away, stand the Pyramids of Giza, and the Sphinx, considered by many to be the most famous statue in the world.

Cairo is the point of departure for most parts of Egypt. It is the centre of the railway system which, strangely enough, had its origin in the line built from Alexandria to Cairo in 1856 by no less a person than Robert Stephenson. To-day there are over 4000 miles of railways, branching out in all directions. Those crossing the deserts are maintained only with the greatest difficulty, owing to the frequent sand-storms.

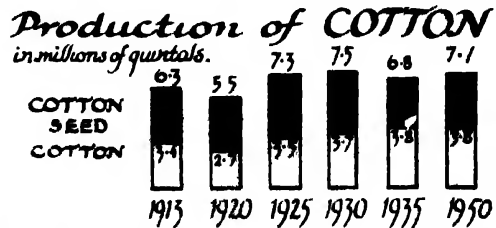
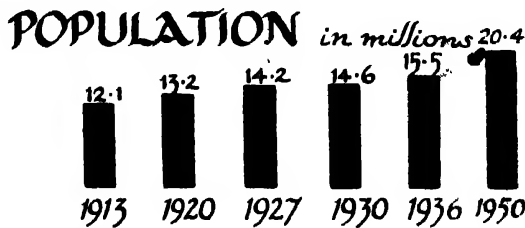
Port Said. After Cairo and Alexandria the next most important town is Port Said, at the mouth of the Suez Canal, to which it owes its modern existence. Before the canal was built



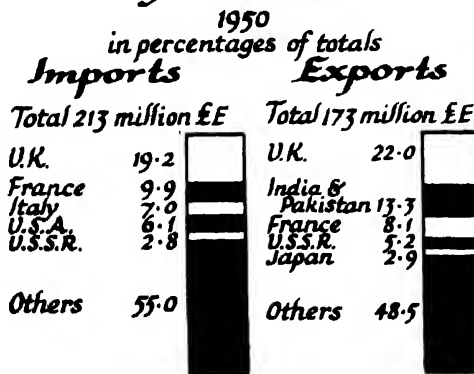
THE RUINS OF KARNAK

Photo: Italian Lines

EGYPT



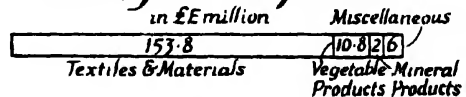
FOREIGN TRADE by Countries



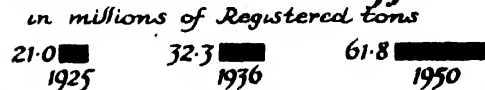
AGRICULTURAL PRODUCTION



Principal Exports



Suez Canal Traffic



it was but a small fishing village. To-day one of the most powerful lighthouses in the world proclaims its proud position as the gateway through which some 80,000,000 tons of shipping pass annually. Its population of about 178,000 is about as varied as can be found anywhere, so also is the variety of the articles displayed for sale in the large modern shops or stores and in the bazaars. From China and India, and from all parts of Europe and the Americas, the countries send their various goods, and it is scarcely an exaggeration to say that more "fake" stuff is sold in Port Said than in any other place.



SUB-TROPICAL VEGETATION

Palm trees and exotic ferns flourish vigorously wherever there is moisture

Photo: Orient Line

Crops. Egypt is essentially an agricultural country, though it does not grow the tobacco for the popular Egyptian cigarettes as so many people believe. This is imported from Turkey and other countries, and resulted formerly in a trade that was worth about £E1,000,000 a year. This has decreased in recent times owing to the wide-spread demand for the so-called Virginian and other tobaccos.

Cotton is the country's most important crop. Most of it is grown in lower or northern Egypt. Its value varies greatly from year to year, and in 1950 it was over £E150,000,000, about 87 per cent of the total exports. In the cotton-producing countries of the world Egypt ranks fourth.

Other important crops are: wheat, barley, maize, beans, dates (of which there are some thirty varieties), fruit, including apricots, peaches, figs, oranges, lemons, pomegranates, and olives. Onions are becoming increasingly important and are grown mostly for export.

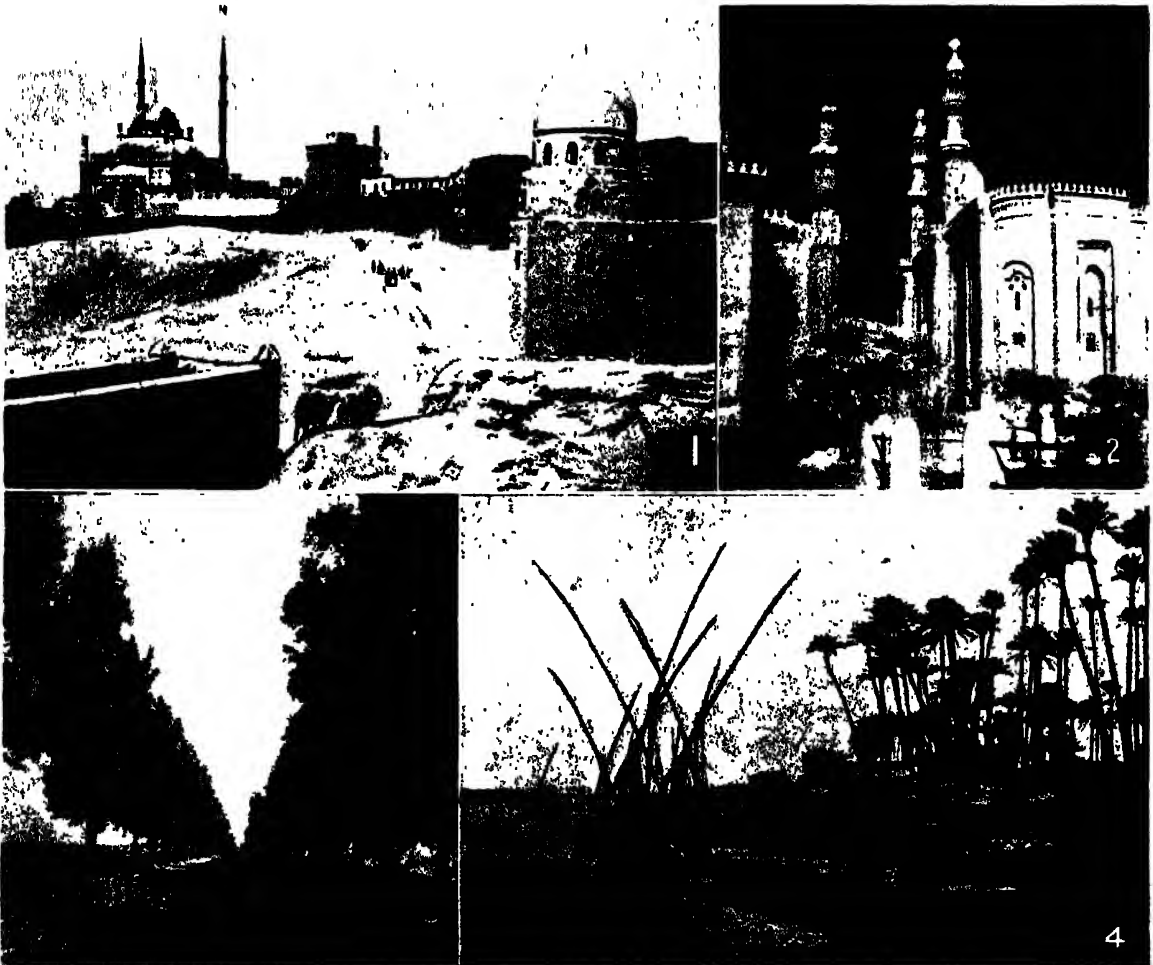
The Fellaheen. The agricultural work is carried on by the fellaheen, or peasants. To-day their lot has improved so greatly that they are better off than they have ever been. Yet as a

whole they are an illiterate people. It is doubtful if more than 20 per cent of them can read or write. Their method of living is strangely primitive, and their methods of farming equally so, for they are still very much as they were in the Biblical days. Some of their farm implements are identical with those seen in the ancient drawings. The sakieh, or wooden water wheel, is still in common use for raising water.

Irrigation. The growing of the crops depends entirely on irrigation, hence the 12,000 miles or more of canals which distribute the precious water from the Nile. Irrigation is almost as old as the country itself. Over 4000 years before the Christian era it was employed with gradually increasing efficiency, for the ancient Egyptians were very skilful engineers. It was not, however, until little more than

100 years ago that the vital problem was tackled in a systematic manner, with the result that in 1843 the 1700 feet long Damietta Barrage was commenced, and a few years later the work was begun not far north of Cairo on the Rosetta Dam, which is over 1500 feet in length. This was followed towards the end of last century by the great mile-and-a-quarter-long barrage at Assuan. These and other dams hold back the flow of the Nile during the period following the rains farther south, and control the output for the rest of the year.

Life of the Peasants. So it is that the fellaheen are able to cultivate their land throughout the seasons. But even though they work hard and produce plentiful crops, thanks to the abundance of sunshine, they persist in their simple way of living, contented to dwell in the rough hovels, built of mud bricks



CAIRO

1. Pinnacles and domes on the outskirts of the city. 2. Sultan Hassan Mosque and El Rifai Mosque. 3. The road to Cairo. 4. The landing stage at Sakkara

Photos: Blue Star Line; Orient Line; Egyptian Travel Development Association



PASTURES OF EGYPT

A shepherd driving his flock homeward along a track lined with typical vegetation of the Nile Valley

Photo - Orient Line

and roofed with thatch or with ugly corrugated iron sheets, the signpost of civilization! These small huts consist more often than not of a single room in which all the family live with their livestock, pigs alone being excluded, as being, according to Mohammedan religion, unclean beasts. To-day, with an improving outlook, the fellaheen are beginning to take interest in the government of the country.

Generally speaking, Egypt is flat and sandy, but in the more southern and eastern parts

bare rocky hills or mountains make a break in the monotonous flatness.

Egypt was under partial control of Turkey for about 400 years prior to 1883, when the dual control was abolished, but it was not until December, 1914, that the country was proclaimed free from Ottoman suzerainty. In 1922 the British Protectorate of 1914 was abolished, and Egypt was declared an independent kingdom. In 1952 King Farouk abdicated, and in 1953 Egypt was proclaimed a republic.

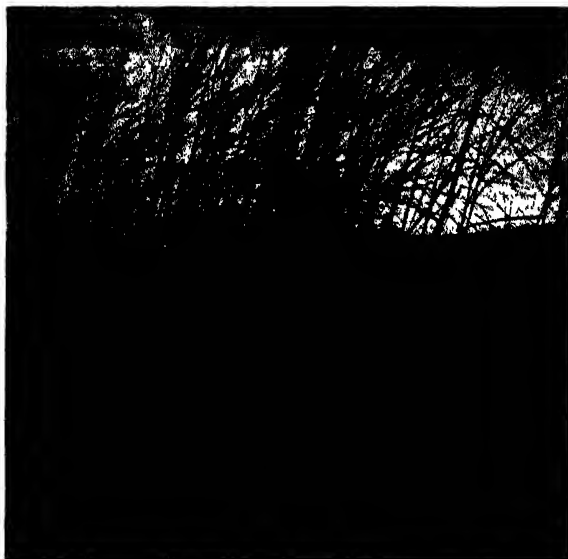
The Anglo-Egyptian Sudan

THE Sudan, situated to the south of Egypt and bordered on the west by French Equatorial Africa, on the south by the Belgian Congo, Kenya and Uganda, and on the east by the Red Sea and Ethiopia (Abyssinia), covers an area of approximately 968,000 square miles and has a population of only

about 8,500,000. The inhabitants consist of many tribes or peoples, such as Nubians, Berbers, Shilluks, Dinkas, Baris, Fajolis, and Arabs, who have been in the country for a comparatively short period.

For several thousand years before the Christian era the Sudan was always subject to

Egypt's efforts at conquest and was at times more or less under its rule, but was never really subjugated. There is no space here to go into the history of the country, beyond saying that it was owing to Egypt's misrule that in 1884 Mohammed Ahmed, known as the Mahdi, organized rebellion. His intention was to conquer not only the Sudan but also Egypt. The situation became very grave. Among others, General Gordon was sent out to try to combat the victorious advance of the Mahdi's forces. Owing to unpardonable delays on the



ARID SAND DUNES
Reeds growing in the sands of Dekhela
Photo: Egyptian Travel Development Association

part of the British Government, Gordon was murdered when Khartoum was captured by the Mahdi in 1885. It was not until 1896 that an expedition, under Kitchener, was undertaken which ended in the taking of Omdurman and Khartoum, and the final overthrow of the Mahdi's forces in 1898. The joint control with Egypt that ensued has not been without its difficulties. In 1952-3 a degree of internal self-government was worked out as a prelude to self-determination.

Khartoum. The capital of the Sudan for more than a hundred years has been Khartoum, on the Blue Nile near the confluence with the White Nile. It stands at an elevation of 1255 feet above sea-level. When Sir Samuel Baker visited it in 1862 he said of it "a more miserable, filthy, and unhealthy spot can hardly be imagined." To-day it is clean, orderly, well laid out and remarkably healthy, as shown by

its low death rate, which is only nine per 1000, comparing most favourably with any town in England. This is due to a proper drainage system, water supply, and to the care that is taken to keep down the mosquitoes which are such a pest in the Nile Valley. Except during the rainy season, Khartoum is by no means a bad place in which to live.

A striking feature of the town is the great width of the streets, designed for strategic reasons; another is the fine appearance of the Government and other buildings. Then there is the splendid Gordon Memorial College, a truly remarkable institution, especially when we consider the size of the country. In this college, first-class education is given in most of the practical professions, such as engineering and medicine. Education in the Sudan is indeed flourishing; the people seem to like going to school, and the standard is higher than in Egypt.

Omdurman. Near Khartoum, at the junction of the two Niles, stands Omdurman, the largest native town in Africa. Formerly it was said to have had a population of about 400,000, but this has dwindled till, to-day, it is perhaps a quarter of that amount. Here is to be seen the ruined tomb of the famous Mahdi, whose body was removed after our conquest, though the building has been left. By no stretch of the imagination can Omdurman be called a beautiful town, for it is little more than a collection of rather squalid flat-roofed buildings, without any pretence to architectural qualities. The people give a truly African appearance to the irregular, crowded streets; they are extremely cheerful and have a quite understandable love of idleness. Simple white clothing prevails among the men and boys, while the women usually wear one-piece blue dresses.

Port Sudan. In point of importance, next to Khartoum, is Port Sudan. It is a fine port, where formerly there was only a small fishing village, and was built as recently as 1906. With its 2000 feet of quays it accommodates over 2,000,000 tons of shipping annually, and is, of course, in direct contact by railway with Khartoum and other centres of trade such as El Obeid and Kassala.

Communications. Beside travel by camel, the other important means of communication is at present by water, though the railway is extending steadily. The White Nile, which has its source in the Great Lakes, has about 1100 miles of navigable river south from



SCENES FROM EGYPT AND THE SUDAN

1. The native village of Shullucks. 2. Arab houses at Suakin. 3. Cataract Hotel, Aswan. 4. The Aswan Dam

Photos: Thos. Cook & Son, Ltd

Khartoum to Rejaf, from which place Uganda is reached by motor. The White Nile was formerly choked by floating vegetation called "Sudd," and it was not until 1904 that the channel was finally cleared to allow the passage of the stern-wheel steamers, thus giving access to the more southern part of the country. On the Blue Nile, which rises in Lake Tana, in Ethiopia, owing to the varying depths of water during the different seasons, steamer travel is only possible for about six months in the year in the more southern part, but there is a weekly service between Khartoum and Sennar, where the great dam is situated. Sennar is nearly 1000 miles from the source of the Blue Nile and about 2000 miles from where the Nile flows into the Mediterranean.

Exports. The produce of the Sudan is chiefly cotton and gum. Cotton growing has increased greatly with the vast irrigation systems such as the Sennar Dam, which is nearly two miles in length, and was completed in 1925. This supplies water for some 850,000

acres and is one of the largest schemes of its kind in the world.

The total exports of cotton and cotton seed are over £E50,000,000 annually. Next in importance is gum, which comes chiefly from the province of Kordofan, west of the Nile. Exports amount to approximately £E3,500,000 annually and constitute a large part of the world's supply. Other products are hides, cattle (mostly sent to Egypt), grain, and senna leaves and pods. Gold is still found, but in small quantities, unlike the old days when it used to be valued at about £80,000,000 per year.

Centre of Bird Life. The country itself, except along the Valley of the White Nile, is generally dry and not very interesting. This is especially true of the western part, including the provinces of Dongola, Darfur, and Kordofan, and also the north-eastern area of the provinces of Berber and the Red Sea. The White Nile flows through country which for the most part is flat and has sparse vegetation. Large tracts of country, watered by the Nile

and its many tributaries of the southern part, are great swamps of papyrus and other grasses, spoken of as the Sudd district, in which bird and animal life is abundant. From the deck of a steamer on the Nile one can see not only birds in countless thousands, but often herds of big game such as elephant, various antelope, hippopotamus, and of course crocodile; the Nile banks are, perhaps, one of the world's best places for observing bird life.

Southward, towards Uganda and the Belgian Congo, the country changes. It becomes hilly and is covered with rich vegetation. Some districts are more like parts of Kenya and are very beautiful. In spite of the fact that it is only just north of the Equator the climate is good.

Eastward, towards Ethiopia, the land is



A SCENE FROM ANCIENT EGYPT

The camel remains the most effective means of transport in the desert both in Egypt and the Sudan. Here the pyramids form the background to the monotonous expanse of sand

Photo Orient Line

mountainous and dry. The only town of interest is Kassala; here strange-shaped, pinkish-orange coloured mountains to the east make a background as beautiful as it is unusual.

Abyssinia (Ethiopia) and the Somalilands

THE eastern side of tropical Africa north of the Equator is relatively little known. The lower land is hot and arid, with poor pasture, and is inhabited only by nomadic tribes. The higher ground, especially the high plateau of Ethiopia (Abyssinia), is better watered with monsoon rain in summer from the Atlantic, but its relative inaccessibility accounts for it remaining independent until the 1935 Italian invasion. Neither economically nor politically did this corner of Africa attract Europe in the early days of African enterprise. France, inspired with a Gallic dream of a vast African Empire, gained a foothold on the Red Sea in 1862, from which grew the French colony of Obok and French Somaliland. But Britain's virtual dominance in the Nile Basin by the end of the century cut France off from expansion westward from the Red Sea and ended French ambitions in the eastern horn of Africa.

The vital importance to British trade of the Red Sea route was the basis of Britain's claim to the Somali coast in 1884. Italy came into the colonial field about the same time and awoke to the possibilities and strategic value of East Africa. In the 'eighties Italy acquired jurisdiction of coastline strips from which later, as control was extended inland, grew Eritrea on the Red Sea and Italian Somaliland on the Arabian Sea. An effort to extend the dominion inland was frustrated by the defeat of Italy at Adowa in Ethiopia in 1896. This stayed

the Italian advance for forty years. All the Italian colonies were wrested from Italy by the 1947 Peace Treaty and placed under Allied control.

The population is mainly Hamitic in race with Negroid and Semitic infusion. Most are Mohammedan, for this part of Africa is well within the world of Islam, but the Ethiopians, a third of the population of this country, profess a form of Christianity derived from the Coptic church of Egypt.

Ethiopia (Abyssinia) has an area of about 350,000 square miles and a population of about 9,000,000. Amharic and Arabic are the chief languages. There is little education outside the priesthood which among the true Ethiopians numbers about 100,000. In 1936 the Emperor was deposed, Italy annexing the country and announcing its incorporation in Italian East Africa. Its independence was restored in 1941. Much of the land is a high plateau, with considerable areas of volcanic rock, cut by deep river gorges through which drain the waters of the Sobat, Blue Nile and Atbara which feed the Nile. On the Blue Nile lies Lake Tana, 1200 square miles in area, whose waters are vital to the prosperity of Egypt. The plateau receives a heavy rainfall in summer and is well forested except at the higher elevations. Towards the east the land slopes down, becoming arid and of little value as it merges into Somaliland. Thus the bulk of

the population lives at above 5000 feet. Barley, millet, wheat and vines are grown for home use. In the warmer valleys rubber, rice and sugar cane thrive well. On the drier land cattle, sheep, donkeys and mules are numerous. There is no mining of any importance. ●

The people are primitive farmers, still living in an age of feudalism, and semi-nomadic herdsmen under independent chieftains. Italian rule was no more effective than the Emperor's rule over the land as a whole. The few towns are overgrown villages. Even Addis Ababa, the capital, with 340,000 inhabitants, has few modern buildings, but was being rebuilt by the Italians. Harrar, an old walled city, is in the Mohammedan part of Ethiopia and used to be forbidden to strangers. From Jibuti a French railway, operated more or less inefficiently, runs to Addis Ababa. The Italians proposed to build a motor road to the capital from Assab in Eritrea. Trade is of little value and there was not long enough to see whether Italy could open up the country.

Eritrea (48,000 square miles: population 1,000,000) was federated with Ethiopia in 1952. The arid coast regions rise to more productive interior uplands. The native population is mainly pastoral, but the Italians were developing cotton and sugar cane cultivation with the help of irrigation. A little gold is worked, mineral oil is reported, and pearling is important along the coast. But Eritrea will never be a populous country. The port of Massawa has railway connection with the interior capital of

Asmara and some other districts. There are also a number of good roads radiating from Asmara.

Ex-Italian Somaliland is mainly an arid region supporting camels, sheep and cattle. Along the rivers in the south the Italians were growing maize, sesame and cotton. In 1919 Great Britain ceded to Italy a strip of territory south of the Juba River with the port of Kismayu. The capital and port of Mogadishu has no harbour but is the terminus of a short railway. The country's population of just over 1,000,000 includes only 4000 Europeans.

French Somaliland is the least significant of all France's African possessions. It represents an ambition which failed to be achieved. The land is mainly arid and has a population of only 55,000. Jibuti, the capital, has railway connections with Addis Ababa. The salt, hides and coffee exported give the colony less importance than does Jibuti as a fuelling port.

British Somaliland, with a seaboard on the Gulf of Aden of close on 500 miles, has little economic but considerable strategic value. An arid coast rises to a less arid interior, but almost all of the population of 700,000 Somalis are nomadic pastoralists with sheep, camels and goats. The administration is encouraging the cultivation of millet, maize and barley, and there is some shifting, but little permanent, agriculture. There is no mining. Berbera (population 30,000), is the capital on the coast and has its trading season during the fine weather of the north-east monsoon in the Indian Ocean. Zeila has very little trade.



CONTRASTS IN ETHIOPIA

Left: Part of a model village built in stone near Addis Ababa. Right: A main street of Addis Ababa
Photos: Keystone; Photopress

INTERTROPICAL AFRICA



NATIVE FISHERMEN

Hauling in the nets which are allowed to drift in the offshore currents and often obtain a rich catch

Photo: Royal Mail Lines

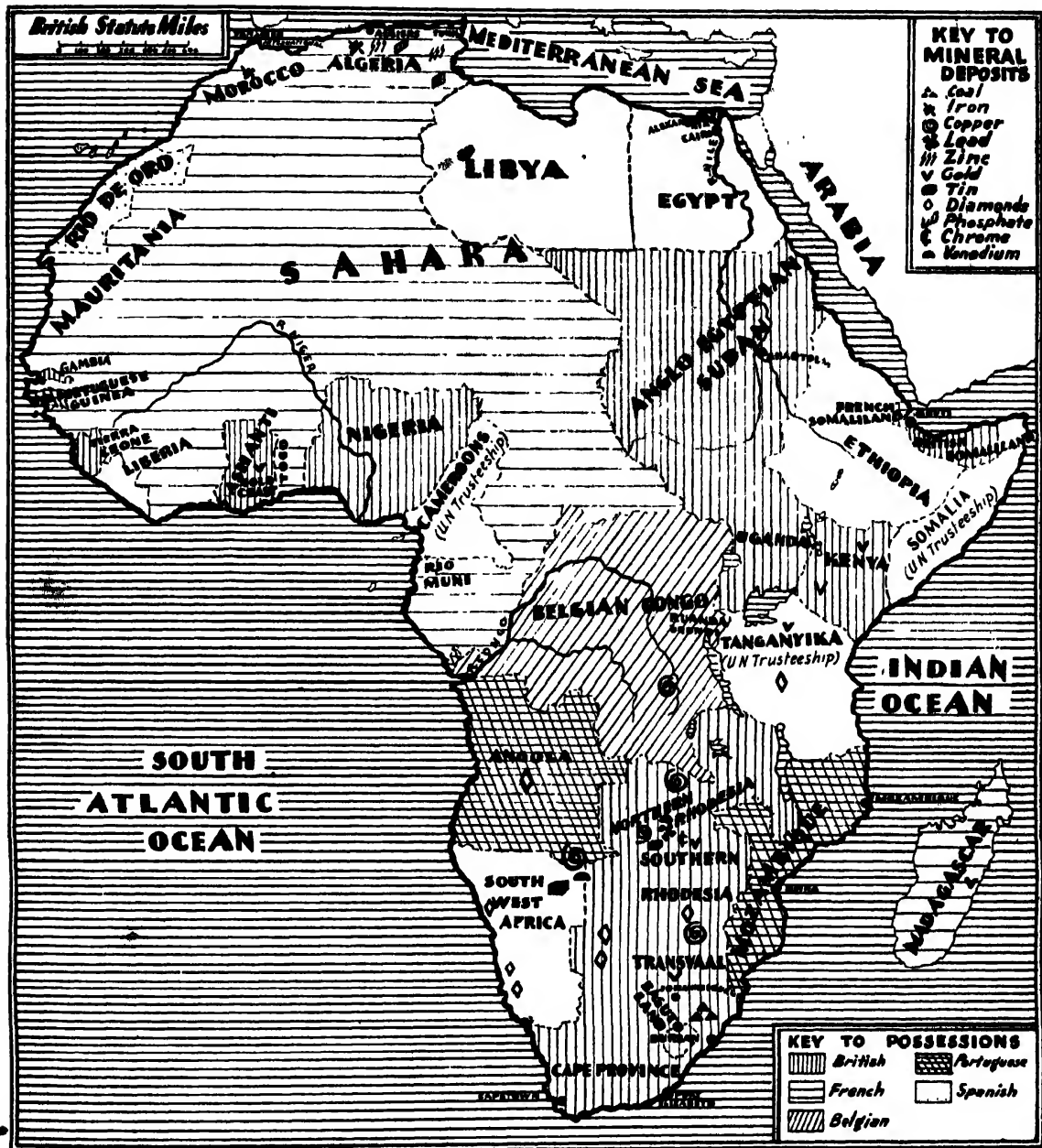
AFRICA is both the newest and the oldest of the continents from the point of view of European knowledge. In the flood-plains of the Nile it possibly witnessed the birth of civilization, and yet the greater part of the continent was unknown to Europe until late in the nineteenth century. The mystery of the life-giving waters of the Nile exercised men's minds before recorded history began and was solved only within the memory of living men. Africa was known before America was discovered, yet to cross it was considered a feat of the first magnitude until a few generations ago.

The explanation of the isolation of Africa lies in its geographical features. Broadly speaking, there are two Africas, a Mediterranean Africa and the remainder of the continent, which may be called Negro Africa and is mainly intertropical. The oft-quoted dictum that from the point of view of Europe, Africa begins with the Sahara, expresses the truth. The northern shores of Africa have always been in touch with Mediterranean Europe and isolated from Negro Africa. Mediterranean Africa gave Europe its earliest inhabitants and many centuries later brought Arab influence into Europe; while later still the movement was reversed and the people of the northern shores of the Mediterranean migrated southward and dominated and

partly colonized the Atlas lands, the Sudan and the eastern seaboard. In structure, relief and climate also (p. 812) most of Mediterranean Africa belongs to Europe.

In the days when transport was less developed than it is to-day, the ways between Mediterranean and Negro Africa were arduous and dangerous. The thirst and hunger associated with a desert journey were deterrents nearly as effective as the unknown dangers of the sea and the traditional dread of the torrid zone. For centuries tropical Africa was a land of myths and marvels, fantastic and incredible, of fabulous cities and of untold wealth, inaccessible and forbidden. All legends have some foundation in fact, and the origin of much of the extravagant nonsense that for long was current about tropical Africa emanated from rumours that reached Europe from Arab, and even earlier, journeys to the south.

The Portuguese Voyagers. It was not until the fifteenth century that Europe began to take a hand in the penetration of tropical Africa. It was natural that Portugal should lead the way. Her proximity to Africa brought her into touch with Moorish sources of information and Arab beliefs in the insularity of Africa. For the primary aim of the early Portuguese voyagers was not the discovery of Africa, but a desire to find a sea way past it to the riches of the East which, by the hands



ZONES OF POLITICAL INFLUENCE AND MINERAL DEPOSITS

of rapacious Arab middlemen, were playing a growing part in the trade of Europe.

The Portuguese were content to trade with coast tribes for gold, ivory and slaves, and rarely penetrated the interior. The East led them on. The names Gold Coast, Ivory Coast and Grain (guinea, pepper or grain) Coast mark their interests. The Portuguese, in their desire to oust the Arabs from the Eastern trade, began to dominate the East African ports, and,

concentrating on this contest, failed to make a footing in South Africa, and, for a time at least, neglected their West African stations.

All this maritime activity impoverished Portugal, and not least by the drain on her man-power, and her fall before Spanish aggression in the sixteenth century led to the virtual collapse of her African interests in the face of rival competitors.

Influence of the Slave Trade. African

trade would have evoked even less interest than it did had it not been that the growth of plantations in the West Indies was demanding labour which the American Indians would not supply. Thus the transatlantic slave trade brought about a revival of the African trading stations.

The absence of Spanish possessions in inter-tropical Africa, except for the small territories of Rio Muni, Fernando Po and other islands, is attributable to the Treaty of Tordesillas of 1494 which divided the unknown world between Portugal and Spain by approximately the meridian of 47° west. This excluded Spain from Africa. Rio Muni marked Spain's one slaving area. Germany and Belgium came into the map of Africa at much later dates. The Dutch, and even the Danes and Swedes, for a few years had their slaving stations in West

Africa, but eventually they withdrew. The Danes sold the last station of Christianborg, for long bereft of slaving interests, to the English in 1850.

Fevers levied a heavy toll on the traders and the West Coast gained an evil reputation. The White Man's Grave was no misnomer for the Gulf of Guinea, even if the story concerning Sierra Leone entailed slight exaggeration. It was to the effect that it took three governors to work it, "one dead, one acting and a third on the way out."

The prohibition of the export of slaves from Africa, started by Britain in 1807 and by Denmark even earlier, and covering all nationals of European states by 1836, did not end the slave trade. Until the 'sixties there was a market in the United States of America, and until the 'eighties in Brazil.



A GOLD COAST VILLAGE

Photo: Royal Mail Lines



TOWN LIFE

Left: A European street scene in Lourenço Marques, Mozambique. Right: Native village homes in northern Nigeria

Photos: Union-Castle Line; Fox

Growth of Demand for Commodities.

The gradual cessation of the slave trade, at least in European hands, left Negro Africa with a desire for European trade goods which could be met, now that slaves were not marketable, only by the sale of gold, ivory, ebony, palm oil and other such legitimate products. The demand for these commodities grew; competition took the traders up country and thus, gradually, grew the conception of spheres of influence delimiting the trading areas of different European states.

Before the end of the seventeenth century the search for wealth in the interior began. Trade was not wholly foreign to the interests of the African Association, founded in 1788, which sent Mungo Park, in 1795, to unravel the mystery of the Niger and Timbuktu; and it is noticeable that, until these problems were solved by disillusionment, European exploration of Africa was centred on the hinterland of this coast where Europeans had first traded. This part of Africa is associated with the names of such explorers as Park, Denham, Oudney, Clapperton, Caillé and Lander.

Exploration and the Nile Problem.

Then the stage changed to East Africa, with the Nile problem as one aim and the exploration of the Great Lakes as a second; but here the motive for European penetration was not so much trade as rivalry with growing Mohammedan power, expressing itself as often as not in attempts to suppress the persisting Arab slave trade.

The East African and Nile period of exploration may be put roughly as 1850 to 1862, and

is associated with such names as Speke, Burton, Grant, Thomson and Baker. During much the same period missionary effort in Africa grew in intensity, with David Livingstone leading the way in southern central Africa and the Zambezi lands. This missionary effort was partially the response of a Europe conscience-stricken by the slave trade, but perhaps not unaffected by the desire to open the interior of Africa to trade. Converted Negroes might buy cotton goods and soap: pagan Negroes want neither.

Lastly, from 1862 to 1878, came the Congo period in African discovery, headed by Stanley: and before it ended the "scramble for Africa" had begun. Broadly speaking this scramble concerned intertropical Africa. The more temperate regions, treated elsewhere in this book, were outside it. Italy's seizure of Abyssinia (Ethiopia) in 1936 was only another, although more recent, act in this self-same scramble from Europe.

The growing industrialization of western Europe provided the motive. Intertropical Africa, still largely in the hands of petty tribal chieftains, was capable of producing raw materials wanted by the manufacturer, food-stuffs to feed his workers, and markets for his manufactured goods. There were oil plants, wild rubber, fibres, the possibilities of sugar, cotton, cacao, hemp and all sorts of desirable mineral ores. Africa became the arena of European rivalries: the inhabitants of Africa were not consulted and often met attempted dominion with such unequal force as they could muster. Hence such conflicts as the

Ashanti War of 1873, the Italian defeat at Adowa in 1896, the years of fighting in Portuguese Guinea and the Abyssinian War of 1935-36.

By the 'eighties of last century the main features of Africa had been revealed by explorers, and France and Germany were contesting with Britain and Portugal for territorial jurisdiction. The story is too long and involved to tell here: suffice it to say that some order was introduced into contested claims by the Berlin Conference of 1884-85. Among other decrees of this none-too-successful effort to limit rival claims (a conference noteworthy for the lack of a knowledge of African geography on the parts of its participants), were the edicts that a claim to any land in Africa must be accompanied by effective occupation, that a hinterland was the legitimate sphere of influence of a coastal power, that the Congo and the Niger, and the Zambezi also within certain limits, were to be open to the vessels of all states, and that a Congo Free State should be recognized under the personal sovereignty of King Leopold of the Belgians.

Legalized Exploitation. Thus was legalized a new and more searching exploitation of intertropical Africa. In many areas control was put in the hands of chartered companies, and in several instances this method led to shameless abuses in the search for dividends. The Congo State was a glaring example, but a royal director, even in a private capacity,

could defy criticism in Victorian days when monarchs were sacrosanct. The state continued immune from interference until King Leopold died in 1909, when Belgium took over the territory.

In West Africa the Royal Niger Company, and in East Africa the British East Africa Company and the British Central Africa Company, had a higher conception of their responsibilities. One area only in intertropical Africa has so far evaded the rapacious European. That is the small Negro republic of Liberia which, in 1821, was founded by philanthropists buying land from native chiefs as a home for repatriated American slaves. The bulk of the inhabitants are still tribalized natives and only some 60,000 can be said to know anything of civilization. A similar state of Maryland was absorbed in Liberia.

Since the Berlin Conference, boundaries in Africa have been readjusted in places, partly after boundary surveys, partly subsequent to the War of 1914-18, when Germany lost her colonies and they were administered first under mandates from the League of Nations by Britain, France, Belgium and the Union of South Africa and, following the War of 1939-45, as trustee territories under the United Nations, and partly by Italy's seizure of Abyssinia and subsequent eviction from that country, Libya, Eritrea and Somaliland.

Just as the ingrained hypocrisy of Christian



ELMINA

An important trading place of the Gold Coast Colony
Photo: Royal Mail Lines



PORTUGUESE EAST AFRICA

Left: A scene on a chicken farm. Right: A native with bow and arrow

Photos. Union-Castle Line

Europe tolerated and even hallowed the slave trade, so does it prate about the benefits of faith and civilization in a later economic exploitation of Negro Africa. But a more just outlook is finding place in European rule in Africa. Sir Frederick (later Lord) Lugard was one of the initiators of indirect rule, of ruling the natives through their own tribal institutions and of regarding the interests of the natives as paramount. Nigeria and the Gold Coast are outstanding examples. It was the system of administration sanctioned by the old League of Nations in mandates for former German colonies. Where Mohammedan culture has been implanted on the natives, the system works more smoothly than in pagan Africa where detribalization has generally progressed far. In some parts of intertropical Africa another view of native rights is taken. In French Equatorial Africa the policy is not to preserve the native culture but to replace it by European culture, to educate the natives and to accept them largely as social equals.

The Colour Bar and Economic Interests.

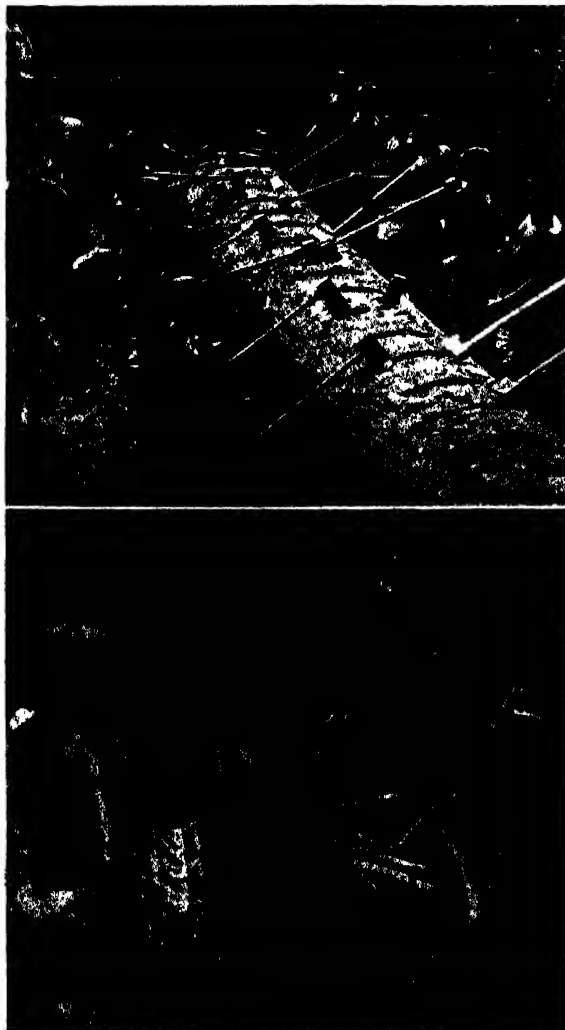
The attitude of Europe towards native population is inseparable from the taboo known as the colour bar, which socially separates, to a great extent, the northern Europeans from the coloured races, but operates less effectively between southern Europeans and natives. Nowhere in the intertropical world have the Portuguese shown a disinclination to mix with

coloured people: they have little colour prejudice and every Portuguese colony is permeated with Portuguese blood: their half-castes are not outcasts. The reputation that the Portuguese have for apathy and indifference in ruling natives may well be due to this closer bond of sympathy which militates against the subjection of the native.

The economic interests of Europe in intertropical Africa have always had to face the relative indifference of the native. Accustomed through centuries to mere subsistence agriculture, he has never shown a willingness to produce beyond his needs or to grow crops outside the range of his wants. By the time Europe began to demand African crops the era of legalized slavery had passed and other ways had to be devised to induce the native to work on a scale that Europeans demanded.

Broadly speaking this can be done only by encouraging the native to develop new wants, such as a desire for European goods. The slave trader supplied gin and gunpowder as the price of his slaves, but the day of these commodities of trade in Africa has almost ceased and now the native wants cheap European clothes, useless boots and shoes, sham jewellery, radio sets, bicycles and motor-cars. To obtain these he must either work for wages on a European-owned plantation, or on his own holding cultivate crops for sale. Thus he obtains the cash he desires.

Under the plantation system Mozambique grows sugar, coconuts and sisal; Kenya, coffee and sisal; Tanganyika, cotton and sisal; the Belgian Congo, French Equatorial Africa and Sierra Leone, oil-palms; and Liberia, rubber. It is a system that may readily degenerate to little better than slavery, as indeed happened



NIGERIAN TIMBER WORKING

Above: Scoring a mahogany log; a team of sixteen forest workers is employed and the log is turned and turned again until it is squared. *Below:* Building a canoe; when the tree is hollowed it is smeared with wet clay and a fire is kindled underneath while it is opened with a series of levers

Photos: Wide World

in the cacao plantations of São Thome and Principe, until other areas supplanted them as producers early this century. Comparable with the plantation system in its effect on native life is the large-scale use of native labour in mines as in Katanga (p. 882). Even under the most careful supervision the system is

demoralizing to native life, as it disturbs the tribal organization and breaks up family life.

The alternative system, of individual holdings producing cash crops, is less prejudicial than plantations and is the system most encouraged in British colonies and especially in Nigeria, but even that system tends to the adoption of a veneer of fictitious European civilization concentrated on the allurements of the mail-order firms. Taxation of the native, nominally for useful purposes, even if light, has the disadvantage of encouraging the migration of labour to plantations, mines, and public works, and is liable to be increased when the flow of mobile labour slackens. It is only by this migration that the native can obtain the cash with which to pay his taxes.

The policy of reserving certain areas solely for natives is a further development of the prohibition on the sale of land to Europeans which is in force in several British colonies. In South Africa several areas are thus reserved, including Basutoland, Swaziland and Bechuanaland (p. 876). These states are outside the rule of the Union of South Africa. In Rhodesia there are several reserves, notably Barotseland, and in British East Africa the policy has been tried. In the Belgian Congo it is accepted at least in theory.

Native Gains and Losses. The attention given to education, both by the state and by missionaries, is very noticeable and affects a growing number of natives; but what is most required is a vocational training to enable the native cultivator to improve his land and his crops, to keep better stock and to abandon wasteful methods of agriculture. In Tanganyika, Germany built and maintained an agricultural research station at Amani which did work of great importance. Britain allowed this to lapse, and, only after urgent representations had been made, agreed to maintain it on a reduced basis by grants from all East African colonies. In the Cameroons, Germany had an experimental nursery which is also continued. Increased education of the natives, ambitious development schemes liberally financed by the United Kingdom, and further steps towards responsibility in government have been features of the post-1945 years.

Africa has gained something from European penetration but it has not escaped many sinister influences. Its gains include new crops and livestock, better agriculture, better sanitation, medical attention and the stoppage of inter-tribal strife. Railways, roads and harbours

and modern towns are the inevitable concomitants of European interest, but are not necessarily of value or advantage to the native. Africa's losses are the breakdown of tribal life, the demoralization of the native into a "hanger-on" to Europeans, the introduction of new diseases, the spoliation of beauty by corrugated iron, and the superficial acceptance of a new faith to the detriment of old, deep-rooted beliefs. It may be too late to save the Negroes from becoming a demoralized and servile class of decadents, but probably the hostility of the climate to European settlement will continue to be some safeguard for tropical Africa.

Europe's interest in African trade has led to the development of many sea-ports in inter-tropical Africa, and these are the more numerous because of the patchwork distribution of territorial power, and the poor conditions of natural harbourage on most shores of the coastal plains. On the east coast the ports were trading stations in the days of Arab monopoly, but on the west coast they date from the beginning of European influence. Inland towns are few, outside the Union of South Africa. The most noticeable are the trading, and to some extent manufacturing, centres in the Mohammedan States of the Sudan, such as Ibadan, Kano and Timbuktu. Industrial centres as we know them in western Europe have not yet arisen in Negro Africa.

Natural Resources and Transport. A deterrent to the rise of large-scale manufactures is the general lack of fuel. Outside the Union of South Africa there is little coal in the continent. Nigeria has a field of moderately good coal which is worked, and some lignite, and Tanganyika, Katanga and Mozambique also have some coal. No oil field is worked. Water power is abundantly available but is scarcely utilized. In metallic ores intertropical Africa is not particularly rich, but much of the continent has been inadequately explored in this respect. Gold has always had some importance on the Gold Coast. Diamonds are found in Angola, in Tanganyika and in the Congo. Iron ores are widespread, but not extensively worked except according to native standards and by native methods. The manganese ore of the Gold Coast is an important export, and the tin of Nigeria is mined on a considerable scale. Copper ores in the Katanga district of the Belgian Congo are important.

The vast distances in this huge continent would necessitate attention to improved transport if the interior were to enter into the world's

trade. The human porter, the canoe and the beast of burden could never meet the requirements of the trader. Steamers have been introduced on lakes and rivers but the height of the lofty plateau results in every river having falls or rapids, so that none provides a sea-way to the far interior. Railways are mainly



INDUSTRY IN THE BELGIAN CONGO

Above. A coffee refinery at Lubumbashi. Below: A smelting plant in the same district

Photos: Fox

unrelated local lines circumventing unnavigable river stretches, joining lakes or linking mineraliferous areas to sea-ports. Motor roads are now under construction and this mode of transport is growing in importance. West Africa has a bus service across the Sahara to the Mediterranean. Air transport is developing swiftly and attaining great importance.

Areas of Political Divisions. Africa, excluding the Mediterranean States and the Union of South Africa, the Federation of Rhodesia and Nyasaland, and islands in the Indian and Atlantic Oceans, includes the following states, colonies and protectorates.

BRITISH. Basutoland, 11,716 sq. miles; Bechuanaland Protectorate, 275,000 sq. miles; British Cameroons (U.N. trusteeship), 34,081 sq. miles; Gambia Colony and Protectorate, 4,101 sq. miles; Gold Coast (including the Northern Territories, Ashanti and Togoland), 91,843 sq. miles; Kenya Colony and Protectorate, 224,960 sq. miles; Nigeria Colony and Protectorate, 372,674 sq. miles; Sierra Leone Colony and Protectorate, 27,925 sq. miles; Somaliland Protectorate, 68,000 sq. miles; Swaziland Protectorate, 6,704 sq. miles; Tan-

Its total area is considerably smaller than that of Yorkshire. The station of Fort James, in the estuary of the River Gambia, was founded in 1618. Bathurst, the present capital and a good port, was founded later, and in the nineteenth century the Protectorate was added. British territory is now a narrow strip of land on either side of the river extending inland about 250 miles. Small vessels can ascend the river for 150 miles. There is a wet season from June to October: the rest of the year is cooler and dry. All cultivation is in native hands and includes



A FREAK OF NATURE
A group of giant anthills in the Belgian Congo
Photo: Wide World

ganyika (U.N. trusteeship), 362,000 sq. miles; Togoland (U.N. trusteeship), 13,041 sq. miles; Uganda Protectorate 93,981 sq. miles; Zanzibar and Pemba, 1020 sq. miles. (Part of the Cameroons and Togoland are administered by the French.)

FRENCH. Cameroons (U.N. trusteeship) 166,000 sq. miles; Equatorial Africa, 891,800 sq. miles; Madagascar, 231,250 sq. miles; Somaliland, 9071 sq. miles; Togo (U.N. trusteeship), 20,500 sq. miles; West Africa and Sahara, 1,779,347 sq. miles.

PORTUGUESE. Angola, 487,788 sq. miles; Guinea, 13,944 sq. miles; Portuguese East Africa, 297,654 sq. miles; São Thome and Principe Islands, 384 sq. miles.

SPANISH. Fernando Po, Annobon, etc., 795 sq. miles; Guinea and Rio Muni, 10,086 sq. miles; Rio de Oro Colony and Protectorate, 109,200 sq. miles.

BELGIAN. Congo, 909,500 sq. miles; Ruanda and Urundi (U.N. trusteeship), 29,000 sq. miles.

INDEPENDENT. Liberia, 43,000 sq. miles.

Gambia Colony is the oldest and smallest of the British possessions in intertropical Africa.

Guinea corn, maize, cassava and rice. Ground-nuts are the only important cash crop. Cotton is being tried. A shortage of labour hampers more intensive cultivation. There is a certain amount of native migration across the frontier from French territory, for summer cultivation, since the boundaries cut through tribal units. Palm kernels from French territory used to find an outlet this way, but the French railway to Dakar is ending this practice. The population totals about 277,000.

Sierra Leone originated as a home for freed slaves in 1788. Their Europeanized descendants form a proportion of the present population of 2,001,000, but the majority are Negroes living in tribal units. Most of the area is flat and lowlying and afforested except where cultivation has reduced the cover of bush and scrub. The wet season is from May to October. During the dry season the hot dusty Harmattan frequently blows from the north-east. All agriculture is in the hands of natives except for a few plantations of recent origin. Oil palms and kola nuts are the cash crops. Ginger and pissava fibre are of less importance. Cocoa, cotton and tobacco are of little significance.

The tsetse fly discourages live stock. There seems to be considerable mineral wealth. Haematite iron ore is exported via Pepel on the Sierra Leone River, gold and diamonds are increasing in importance and platinum is mined in small quantities. Freetown with 86,000 inhabitants, is a good harbour such as is rare on the West African coast, and the town is now comparatively healthy and certainly does not merit the old-time strictures on its hygiene. It is linked by a narrow gauge railway with Pendembu near the frontier of Liberia. Sherbro is a poor port.

The Harmattan blows in January and February.

Palm oil and wild rubber decreased in importance as the cultivation of cocoa became the chief interest. It is grown by peasant farmers wholly for export and the Gold Coast produces almost half the world's supply. Kola nuts are sent to Nigeria and some mahogany is exported. In the Northern Territories there is a great deal of livestock, but much of the pasturage is poor and apart from subsistence agriculture, experiments are being tried with cotton. Manganese ore, from Nsuta, and gold and diamonds are important, and are mined by European interests.



THE MABOLE RIVER

A view of the Mabolé plain, traversed by a new road marked by white posts, alongside which are the dwelling houses of the settlers. In the background is the seemingly limitless expanse of the unfruitful marshes

Photo: Royal Mail Lines

Gold Coast. From early trading stations, including Dutch ones until 1871, British control spread inland until the Gold Coast embraced the colony of that name, Ashanti, the Northern Territories and the part of Togoland now under U.N. trusteeship, with a total population of 4,095,276, including only some 6000 non-Africans. In 1950 a new Constitution was promulgated which conferred on the Gold Coast a greater degree of self-government than any other British Colonial territory in Africa enjoys.

The whole makes a varied territory rising from a smooth, harbourless coast through swampy plains to a tableland cut by the wide valleys of the Black Volta, White Volta and Afram. The area has a relatively low rainfall for West Africa, with intermittent rains from March till September, the latter month being one of the wettest. Towards the interior generally rainfall decreases and open country is the rule. The heaviest forests are in the south-west.

It is noteworthy that the Gold Coast, with its huge interest in export, is not self-supporting in food and has to import flour, rice, meat, fish and sugar. Rivers are little help in commerce and the only railways are in the south linking Kumasi with Takoradi, Sekondi and Accra on the coast: they serve the cocoa and chief mineral areas. Motor roads are increasing in length. Takoradi is an artificial harbour, Accra has a breakwater, but other ports are only open roadsteads.

Nigeria, with an area about six times that of England and Wales, is the largest of the British West African possessions. It combines a number of areas formerly under different administration. Lagos, now the capital, with a population of 240,000, marked the beginning in 1861. To this were added in time the territories of the Royal Niger Company, the Niger Coast Protectorate, and, in 1919, part of the German colony of the Cameroons. The whole now consists of the colony of Lagos and

the protectorate of the Northern, Eastern and Western Provinces. The Northern is an area of plateau, highest in the Bauchi plateau in the middle and sloping down to Lake Chad in the north-east frontier, to the broad Niger Valley in the west and the Benue Valley in the south-east. The north is dry for nine months: southward the amount of rain and the length of the rainy season increase. Temperatures are high but fall at night. The steppe of the Saharan border yields to savanna and open forest as



MADAGASCAR

A fertile valley nestling between bleak and precipitous mountains

Photo: French Railways National Tourist Office

the rains increase southward, but, by soil erosion due to wasteful systems of agriculture, the Sahara is encroaching. The other two Provinces are lowlying, wet and hot, densely forested with mangrove swamps on tidal waters. Roughly speaking the north is the area of Mohammedan Emirates with Hausas, Fulahs and allied population: the south is pagan, negroid and more primitive.

Nigeria is a well-peopled country. In the Northern Provinces the total population is 13,000,000 and in the Eastern and Western Provinces 11,000,000. About 2500 Europeans are in government service and another 2000 are in trade. A few Syrians are also traders.

The land is native owned and primitive subsistence agriculture with the hoe, as elsewhere in Africa, is the chief occupation; the

crops being chiefly yams and maize in the wetter regions and Guinea corn and other millets in the drier parts. Cattle are of importance in the north. The chief cash crop is the oil palm, both kernels and oil being exported. Cocoa and cotton are of less value, the former, however, growing in importance but the latter mainly meeting local demands. Bananas are exported from the Cameroons. Mahogany, sheep and goatskins, and tin ore, are exported, the latter from the Bauchi plateau where supplies are plentiful. Coal is mined for railways and coastal steamers. In 1946 a ten-year development plan was started, to deal with social and economic improvements. The total cost of its application was estimated to be about £55,000,000.

Waterways are important. Sea-going vessels can ascend the Niger to Warri, but most use the ports of Lagos, Port Harcourt, Forcados, Calabar, Victoria and Bonny. Launches and stern wheelers ply on the chief rivers. Railways include a western line from Lagos to Kaduna and Kano (700 miles), and an eastern line from Port Harcourt to Kaduna (569 miles). Modern passenger and goods trains run on these lines. Several thousand miles of fair roads also exist. The air network is big. There are about thirty aerodromes and extensive internal and external services.

Bechuanaland, Basutoland and Swaziland are three large areas in South Africa which are outside the Union and are ruled as British Protectorates and Colonies. Each is more or less a native reserve and they represent a recognition of the right of the natives to some of their land. Their trade relations, however, are, and must be, mainly with the Union. The possibility of the transfer of these territories to the Union is now being considered.

Bechuanaland is a vast arid territory, desertic in the south and fit for cattle in the north. The Bantu population of 290,000 is only about one per square mile and there is much migration of labour to the Union, especially to the Rand mines. Each chief rules his own people and there is taxation for education. **Maifeking**, in the Cape Province of the

Union, is the seat of the Resident Commissioner. The Cape-Rhodesia railway traverses the eastern edge of the Protectorate.

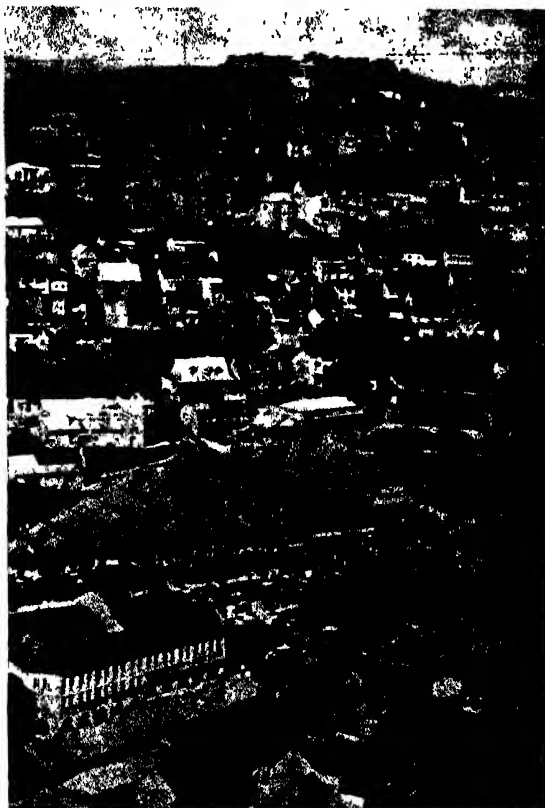
Basutoland, on the high plateau of South Africa, is encircled by Union territories. It became British in 1864, and used to be part of the Cape Colony, but in 1884 was restored to direct British control. It is a dry country with a great range of temperature. The Basutos grow maize, kaffir corn and wheat, and breed sheep and goats. Cattle suffer from drought and deterioration of pasturage. Many Basutos migrate to the Union to find work: the total population is about 600,000. There is a native tax. No White man can purchase land and traders are restricted.

Swaziland abuts on Portuguese East Africa. Its 190,000 inhabitants, allied to the Zulus, are mainly cattle breeders, and they own one-third of the total area. The 3000 Europeans grow maize, kaffir corn and tobacco. Tin and gold are mined. Swaziland is an undulating country of good rainfall and might be more prosperous if the Swazi had more of the land and better facilities for export of cattle. There are no railways but motor buses provide a means of communication. The administrative centre is Mbabane.

French West Africa (Afrique Occidentale Française) is a huge, varied and disjointed territory extending from the heart of the Sahara to the Atlantic Coast and broken by large and small enclaves of British and Portuguese territory along the coasts. With the capture of Algiers in 1830 France became an African Power, but her interests for a time were concentrated on Mediterranean Africa, and, though she had footholds in West Africa from the seventeenth century and even earlier, it was not until the nineteenth century was more than half spent that French power began to spread in intertropical Africa. It was late in that century before the conception of a West African Empire became the policy of France. Then she was materially assisted by a measure of hesitancy on the part of Great Britain, and quickly her vast possessions grew. It was not, however, until after the War of 1914-18 that France began to turn to the serious development and consolidation of her tropical African possessions.

While Britain regards each of her African possessions as a separate unit, each having different problems and requiring different treatment, France aims rather at a unification of her possessions and, with the French passion

for centralization, regards all her West African territories as one empire. A Governor-General controls all common services and general policy, and a common budget serves transport and public works, only local interests being left in the hands of each colonial governor, who is assisted by a locally elected territorial assembly and a privy council. The policy tends to be one of direct rule combined with an attempt to educate the native and assimilate him into



MADAGASCAR

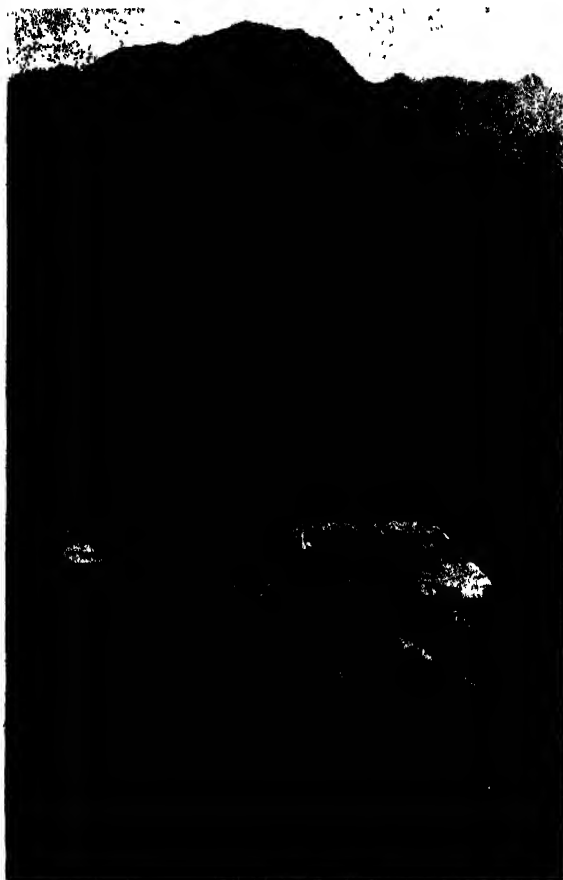
A general view of Tananarive

Photo: French Railways National Tourist Office

French citizenship. The extension of French citizenship carries with it the obligation of conscription, and France has thus at her disposal a potential black army of millions. That aspect of French administration may bring to Negro consciousness the worst aspects of European rule.

As a result of the changes in their constitutional status brought about in 1946, each of the eight territories is now represented in the French National Assembly and Council of the Republic.

The separate colonies in French West Africa



PRIMEVAL FOREST IN RÉUNION

A native village situated in a clearing recently hewn out of the virgin forest lands
Photo: Wide World

are Senegal and French Sudan, French Guinea, Ivory Coast, Dahomey, Niger and Mauritania. In addition, about two-thirds of Togoland are administered under trusteeship. Dakar is the seat of the Governor-General.

From the wastes of the Sahara French West Africa stretches southward, through savanna and bushland, into the forests of the wet coastlands, but the greater part of the territory is moderately dry and none too productive. Population is densest in the forest zone and along the larger rivers such as the Senegal and Niger. The general shortage of population militates against the intensive production of export crops, which reach a surprisingly low level compared with those of some other West African areas. Senegal is far ahead of the other French colonies in its export trade. Here, as elsewhere in French West Africa, the only important products are groundnuts, palm oil and palm kernels. Cocoa and cotton are also exported. Cotton is being fostered by a great

irrigation scheme in the middle Niger basin. Other products are hides and skins, gum, copra, kapok and bananas. Cattle and sheep are numerous.

River routes, except on the Senegal, are not important, but much attention is being directed to railways and motor roads as well as to airways. The most significant are the railways linking the middle Niger region with Konakri in Guinea and with Dakar and St. Louis in Senegal.

France has several harbours in West Africa. St. Louis, a fair port, is declining through competition with Dakar (population 100,000) which has a fine protected harbour, used also as a port of call on the South American route and as the chief air port in West Africa. Kaolack, on the Salum River in Senegal, is a groundnut port. Konakri, on the Los Islands off the Guinea coast, is only a moderately good port. Bassam on the Ivory Coast has been improved and so has Kotonu in Dahomey, but neither is a good port. Lome is the port of French Togoland.

French Equatorial Africa, or the FRENCH CONGO, began in 1841 on the River Gabon and has since spread by acquisition and conquest. An area of 107,000 square miles, which was ceded to Germany in 1911 in return for non-interference in Morocco, was returned by the Treaty of Versailles. In addition 166,000 square miles of the Cameroons were put under French mandate. Equatorial forest occurs at the head of the Bight of Biafra in the Gabon, which has a low, mangrove fringed coast, and in the Congo area. Farther inland rainfall becomes much less, and on the Ubangi-Shari plateau there are open savannas and grassland, while the Chad territories, with a low



IN THE FRENCH CAMEROONS

Native craftsmen thatching their homes near Bano, showing how the well-built huts are made of stiplings cut from the forest and covered with a reed thatch

Photo: Keystone



THE IVORY COAST

A view of Korogho showing a native village with the chief's residence in the centre

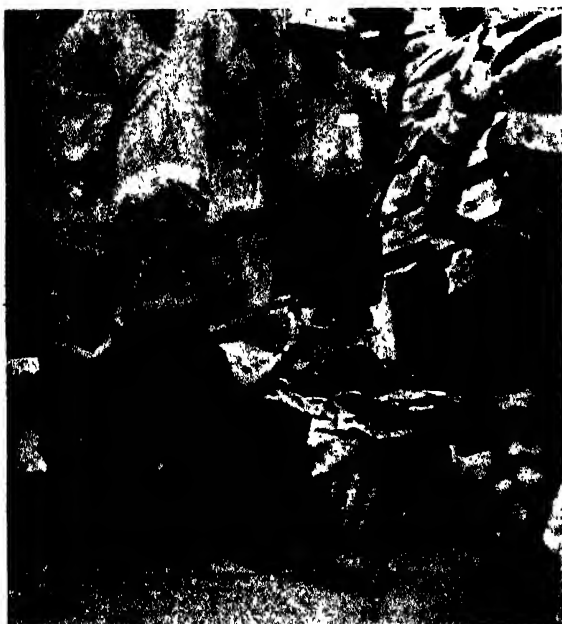
Photo. Wide World

rainfall, are poor grazing lands. The French Congo is thus a composite region partly equatorial, negroid and pagan, partly Sudanese, Hamitic and Moslem. Gabon and the Congo are pagan tribal Africa: the Chad area was, until French rule undermined them, a land of Moslem sultanates.

In the Gabon, Congo and Ubangi areas the French introduced the concession system in the interests of rubber and ivory. The system led to the usual abuses in the exploitation of the native and has now been much curtailed but by no means abolished. Apart from the usual native crops and livestock, forest products are the chief exports, including wild rubber and palm oil, some mahogany, and ivory. There is little encouragement to native agriculture. The total population of over 4,350,000 gives a low density and almost half this total lives in the area that used to be part of the Cameroons. The Congo-Ubangi waterway is the only traffic link in the south: there is none in the Chad area. The administrative and trade centres are Libreville on the coast, Brazzaville on the Congo, Bangi on the Ubangi and Fort Lamy near Lake Chad. In the Cameroons

area development had gone further under German rule and the seaport of Duala is linked by rail with the capital of Yaunde, on high, level land. The Germans showed a tendency to preserve native units and not to undermine them in their rule over this territory.

Madagascar is part of Africa and yet is distinct from Africa. Physically it is a detached fragment of the old African plateau, but it shows geologically recent rocks as well as considerable volcanic activity. Separated from Africa by the 300-600 mile width of the Mozambique Channel, its native population is not negroid but Malay, and, if the negroid strain is very marked, it is due to centuries of introduced African slaves rather than to free migration. The Malagasy, among whom the Hova are the chief race, speak a Malayo-Polynesian language. The island is a mountainous plateau with a steep descent to a very narrow plain on the east and a more gradual descent to wider plains on the west. The east is hot and rainy, but the plateau, though wet, is cooler. On the west, especially the south-west, the rainfall is slight, in places arid conditions result and population is less dense.



THE TRANSPORT PROBLEM SOLVED
A Negress who has adopted an effective method of bringing her
child to the market
Photo: Wide World

Madagascar was almost ignored in the early days of the sea route to the East and became the home of fantastic tales and the haunt of pirates as late as the eighteenth century. France put in a claim to Diego Suarez, a fine natural harbour in the north, in 1885, and gradually extended her rule over the island; but exploration of the interior was not undertaken until late in the nineteenth century. In Madagascar, France has adopted a method of rule approximating to the British system of indirect rule, which was facilitated here by the close-knit organization existing under native rule by one monarch. French settlement is not encouraged, but there are 52,000 Europeans and others among the 4,295,000 total.

The cultivated land belongs in the main to the natives but represents a small area. Rice is the chief subsistence crop. Manioc and maize have been successfully introduced. Coffee, sugar cane and vanilla are other crops. There are great possibilities of extension of export crops. Cattle-breeding has much promise. Railways and motor roads are being extended and plans are on foot to improve the ports. Tananarive, in the centre of the island, with a population of about 180,000 including some 18,000 French, is the capital and has many of the amenities of a French town.

Mayotte and Comoro Islands, with a

total area of barely 1000 square miles and a population of about 180,000, are dependencies of Madagascar. They grow sugar cane, vanilla, coconuts and sisal.

Réunion, 420 miles east of Madagascar, is another sugar-producing island which has belonged to France since 1643. The population of 260,000 is mainly of French descent and they are regarded as French citizens with representation in the French Chamber. Lack of labour prevents greater export. Rum is manufactured.

Mauritius. A British island, 720 square miles in area, it lies in the Indian Ocean 550 miles east of Madagascar. Sugar is the chief crop. Port Louis (75,000) is the chief town and capital. Less than one third of the 460,000 inhabitants is European.

Portuguese Guinea is a survival from the earliest days of Portuguese enterprise in Africa, and here, alone on the west coast, has Portuguese power survived its general expulsion by rival powers. The province includes the small volcanic Bissagos Archipelago in which Bolama, the capital, lies; but this archipelago only finally became Portuguese in 1870, after a long dispute with Great Britain. Most of the province is lowlying and forested, but in the higher



SIERRA LEONE
A native woman with two children, showing the "basket" commonly
carried on the head
Photo: Royal Mail Lines



DANCERS OF CENTRAL AFRICA

A native dance troop with the two drummers who provide the music for their dancing

Photo Royal Mail Lines

interior there is pastoral land where the forest Negroes give place to Hamitic tribes and the influence of Islam holds sway. The rains last from May to September and the temperatures are always high. Until this century Portugal paid little attention to Guinea, and even now interferes little with native rule, and this despite having many years of fighting before the population gave way to its rule. Palm kernels and palm oil are exported. There are no railways but many excellent motor roads. The ports have few modern facilities.

São Thome and Principe, though smaller, are much more important. They are volcanic islands, São Thome, the larger, rising to 7020 feet. The coast zones are hot and forested, but at greater heights the climate is more temperate. The population of 60,160 is mainly negroid with some early Portuguese admixture, but includes about 1000 Europeans. Until the Gold Coast excelled them in 1912 these islands were the chief cocoa producers in Africa. Plantations are on rich soil easily accessible to shipping and were worked by labour imported from Angola. The conditions of labour were reported to be very bad and, by way of protest, several European firms refused to purchase. The supply then fell and to-day is relatively unimportant. Coffee, coconuts, palm oil and cinchona (for quinine) are also produced. The

chief port is São Thome, served by a short railway.

Kabinda, a small Portuguese enclave to the north of the Congo mouth, is another survival of early trading days. It produces mainly cacao. Administratively it is in the Congo District of Angola.

Angola, or PORTUGUESE WEST AFRICA, is the oldest, the largest and the most important of Portugal's African possessions. Its population of 4,400,000 includes 58,000 Europeans and 20,000 half-castes. The coast regions are lowlying and dry and it was the relative unattractiveness of this belt which, until late in the nineteenth century, confined Portuguese attention to a somewhat desultory interest in a few struggling trading posts. Then the interior with its better conditions began to attract attention, and Portuguese power spread far inland. The interior is mainly a plateau, highest in the middle—over 5000 feet on the Bihe plateau—and falling to the Congo region in the north and east. The central plateau, with adequate rainfall and without excessive heat, offers some scope for European settlement. Maize, coffee and cattle are the chief interests and it is noteworthy that the dreaded cattle scourge, the tsetse fly, is absent. This area offers some real scope for colonization by southern Europeans and has recently received

some attention from the Portuguese, perhaps partly in apprehension of the covetous eyes of other European Powers without colonies in tropical Africa. A new capital, Huambo, or Nova Lisboa, is being built on the plateau to supersede Loanda (São Paulo de Loanda) on the coast at the mouth of the navigable Kwanza. The new capital has rail connection with Lobito Bay, a reasonably good harbour, and the mining district of Katanga in the Belgian Congo. The natives of Angola cultivate maize, manioc, groundnuts, tobacco and wheat, and rear cattle and sheep. Sugar cane and cocoa are grown in coastal regions where irrigation is possible. Plantation agriculture is hampered by lack of labour. Coffee, maize and sugar are the chief exports: diamonds are of importance.

Portuguese East Africa, or MOZAMBIQUE, has grown from Portuguese claims early in the sixteenth century, when Portugal was trying to found her monopoly in the Eastern trade. Thus Portugal's claim to this long stretch of eastern Africa cuts off from the sea the later acquired British territories. A small strip of territory in the north was acquired from German East Africa by the Treaty of Versailles. The navigability of the Zambezi for some 300 miles up to the Kebrabasa Rapids accounts for the westward bulge of Portuguese territory up the Zambezi Valley. A low coastal plain, wide in the south, rises to the interior plateau at heights of a few thousand feet. Summer is warm but damp and winter is warm but dry. Most of the area is covered with bush and grassland, but forests grow along the river valleys. The total Negro population is about 5,500,000 and there are some 40,000 Europeans and half-castes, mainly in Lourenço Marques and Beira. A chartered company formerly controlled part of the territory, but since 1942 the whole has been administered by the state. Agricultural production for export is largely controlled by plantations which produce sugar, sisal and coconut. Rubber finds the climate too dry. Cotton, with irrigation, promises well. The recruitment of labour for Transvaal mines is a great drain on the population, although it is now limited to an annual quota. The Tété coal-field is promising and several other minerals are reported.

More important than the small agricultural development of this colony is the use made of its seaports for traffic to and from the Rhodesias and the Union of South Africa. Lourenço

Marques, with a population of 48,000, and Beira with 14,000 are the chief ports. Lourenço Marques on Delagoa Bay is a good port and with rail connection with the Union exports coal, copper ore and maize. Beira promises to be even more important with its railway connections with Rhodesia and Nyasaland. It is the port for the Tété coal-field, Rhodesian produce, and even Katanga ores.

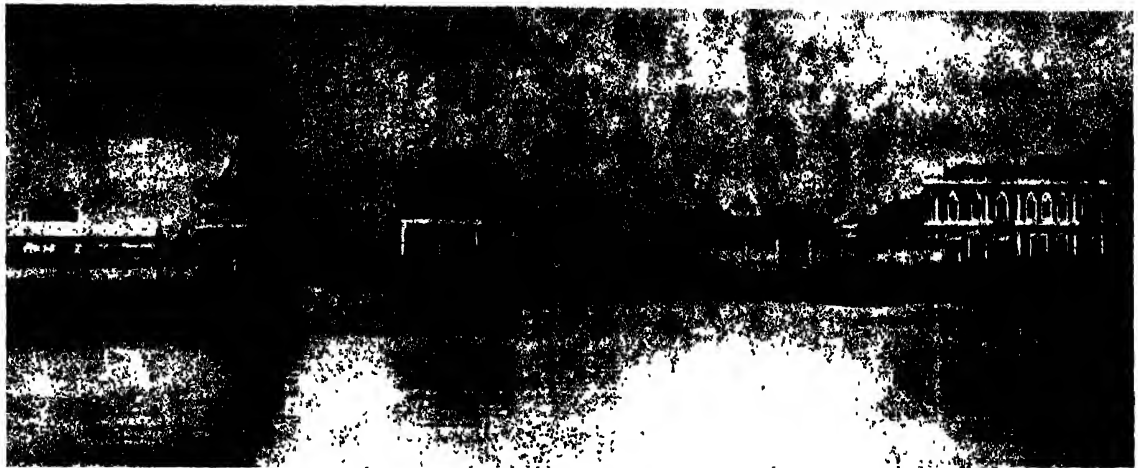
Spanish interests in intertropical Africa are few. **Rio De Oro** is a desert territory of a nomadic Arab and Berber population and is administered from the Canary Islands. Fishing is almost the only occupation. There are no towns: the Sahara stretches to the sea. **Spanish Guinea** lies around the Rio, or River, Muni. It is entirely equatorial in climate and densely forested. The population is entirely Negro. A little cacao and sugar are exported. Bata and Benito are the trading ports. Much more important are the volcanic islands of **Fernando Po, Annobon, Eloberry and Corisco**. Cocoa and palm oil are produced mainly with indentured labour from the mainland. Santa Isabel on Fernando Po has a population of about 10,000.

Belgium has only one territory in Africa, the **Belgian Congo**, but it is of immense size—ten or eleven times the area of Great Britain. Much of it is inadequately explored. As already noted (page 870) this area was originally the Congo Independent State. The old-time regime completely broke the native states and tribal chieftainships, already seriously imperilled in the days of slave raiding, and destroyed the Congo Negro's faith in the White man. The concession system of delegating authority to profit-seeking companies has now been much modified and regulated. Nevertheless population is said to be declining. Improvements in sanitation and preventive medicine are offset by the scourge of new diseases, especially the dreaded sleeping sickness, the spread of which is, however, being controlled.

The area extends from the sea to the Great Lakes and is, broadly speaking, the basin of the Congo with the exception of the north, where the boundary with French Equatorial Africa follows the main tributary of the Ubangi. In 1925 the Ruanda and Urundi areas of German East Africa were added to the Belgian Congo under a mandate. This event took the most productive and densely populated parts away from Tanganyika, apparently in the interests of labour for mines and plantations in the Congo. It certainly cut through

the natural affinities of the population. Much of the Belgian Congo is open woodland, but in the more equatorial regions in the north and along the rivers there is thick jungle. The Ruanda is a grassland district. Climate is always warm, dry for two to three months only, and with an annual rainfall of fifty to eighty inches. Apart from the usual subsistence crops of equatorial Africa—yams, cassava, plantains, etc.—the native crops are oil palms and cotton: the former is the most important and the kernels are crushed for oil in numerous

the sea. There are in all some 6000 miles of inland navigation on the system. The main stream is navigable for ninety-five miles to the port of Matadi. Then 250 miles of rapids, including the Livingstone Falls, render it unnavigable as far as Stanley Pool. A railway links Matadi and Leopoldville. From there navigation continues to Stanley Falls, whence a railway runs to Ponthierville, where navigation begins again and continues up the Lualaba to Bukama, except for a break, linked by rail between Kindu and Kongolo. At Bukama



PORTUGUESE WEST AFRICA

The port of Lobito showing the docks and Government buildings

Photo. Keystone

centres in the concession areas. Kernels are also exported. Cotton, mainly in the south, should have a great future. Plantation crops include rubber, coffee, sisal and cocoa, but so far are not of first rate importance. Rubber is restricted by want of labour.

Much gold is produced in the Kilo Moto field north-west of Lake Albert: diamonds abound in the Kasai basin and radium is found. But the important mineral is copper from the Katanga district in the south, known for ages and worked on a small scale, but only of high importance in recent years. Here, around Elisabethville, is a busy industrial district in which there are some 10,000 Europeans and 100,000 Bantu labourers, recruited from the area itself, Angola, Rhodesia and Ruanda. Much of this population is dependent on imported food. About 6 per cent of the world's copper comes from Katanga. Nearly all the ore is smelted on the spot.

The huge Congo territory has a useful transport system in the Congo and its main tributaries, in spite of lack of river access to

navigation meets the railway between Port Francqui on the navigable Kasai tributary and the Lobito Bay-Katanga line which joins the Rhodesian railways.

Liberia, the Negro republic, is nominally independent, but the United States has a large interest in finance and in American owned plantations. Most of the country is forested, except where cleared for plantations, but economic development, apart from subsistence agriculture, is almost confined to the plains of the coastal region; only some 4 per cent of the total Negro population of 2,500,000 hold any part in the political life of the state. The constitution is modelled on that of the United States, but is not very effectively maintained. There are some rubber and coffee plantations, the latter the most important. Pissava fibre, which is used in brush making, palm kernels and palm oil are also exported. Minerals now being exploited include gold and iron. Liberia has only one light railway and the few roads are fit only for light traffic. Monrovia is the capital, chief port and only town of any size.

BRITISH EAST AFRICA

(Kenya, Uganda and Tanganyika)



THE KENYA SCENE

The typical scrub and barren rocks in the Rift Valley of Kenya

Photo · P. Hoefler

BRITISH EAST AFRICA comprises Kenya Colony and Protectorate (224,960 square miles), Uganda Protectorate (93,981 square miles), and Tanganyika Territory (362,000 square miles). To these may be added the two small islands of Zanzibar (640 square miles) and Pemba (380 square miles).

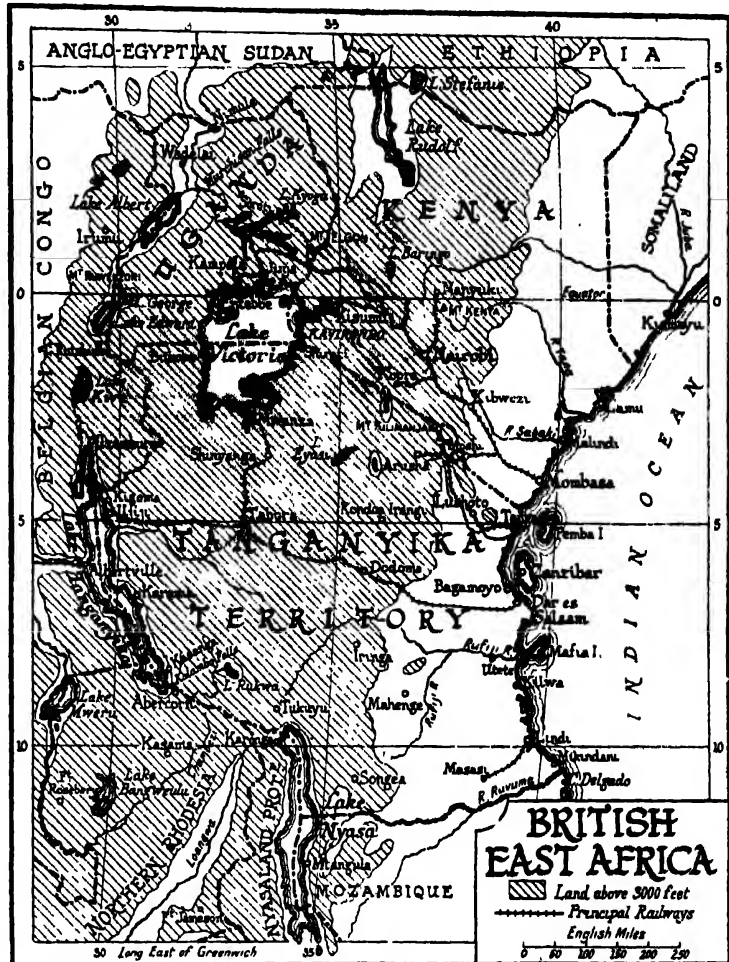
The country has long been famous as the land of big game. To-day, after over fifty years during which they have been hunted down almost without restriction, Uganda alone has over 20,000 elephants. And the seeming anomaly of a country lying for the most part

in the equatorial belt in which large areas yet boast of an average mean temperature of less than 70 degrees Fahrenheit, has given it an attraction in the eyes of White people, not only in the British Commonwealth but outside it, who either would like to make it their home, as over 43,000 have already done, or are interested in the struggle, largely political, these are putting up in order to maintain themselves there. Kenya has attracted by far the largest number of White immigrants—some 30,000—because in that territory the plateau of the Great Lakes, of which it, Uganda and

Tanganyika are a part, attains its greatest elevation.

Altitude and White Settlement. The connection between altitude and White settlement can be seen in the fact that Mombasa, the low-lying coast terminus of the Kenya and Uganda Railway, has a mean monthly temperature of 80 degrees Fahrenheit, and 1250 Europeans, while Nairobi, 334 miles inland and at an altitude of 5400 feet above sea-level, has a mean monthly temperature which never rises above 66 degrees, and 6000 Europeans.

Belts of Vegetation. Entering Kenya by way of the Indian Ocean, the traveller has to pass through a stretch of low-lying sandy coastal plain from four to ten miles wide, of which the prevailing vegetation is coconut palms and mangrove trees, the latter to be found particularly in the marshes at the mouths of rivers. This belt of vegetation is succeeded by a low coastal forest, thick and almost impenetrable in parts, but nowhere extending much farther inland than about forty miles from the coast. The temperature here is high, and the rainfall ranges from twenty-five to forty inches, decreasing progressively away from the coast. The next belt is that of the scrub forest. This is of several types, according to the amount of rainfall. In parts it may be made up mainly of acacia, which tends to merge into the savanna forest; but for the most part it consists of thorn bush, which sometimes grows so thick as to be impenetrable. This is the prevailing kind of vegetation for some 200 miles and more between the coastal forest in Kenya and the area designated arbitrarily, for climatic reasons, as the Highlands, i.e. land at an altitude of at least 5000 feet, and therefore suitable for White settlement. The rainfall over the scrub forest belt is generally scanty, being between ten and twenty inches. It should also be emphasized that the proportion of the colony with this deficient rainfall is about 42 per cent, and that the areas concerned lie almost in one continuous block. Actual deserts occur in several parts. The



traveller by train from Mombasa, for instance, enters, within a few miles of the sea, the Taru Desert of red dust—decomposed sandstone, with which extensive tracts of the colony are covered, some of them forming parts of native reserves. All land north and east of 2° south and 37° 48' east, as well as part of what is now the Masai Reserve on the southern boundary, comes under the category of arid semi-desert and desert lands.

It is not until the railway has reached a distance of some 300 miles from the coast that land at an altitude of 5000 feet is encountered. The greater part of the Highlands is at least 6000 feet high, large tracts being between 8000 and 9000 feet.

The Great Rift Valley. The continuity of this block of highlands is broken by what is known as the Great Rift Valley, which is a great north-south trough fault in the Earth's crust—a subsidence to a depth varying from 2000 to 3000 feet below the level of the land,



LOCAL TRANSPORT

A river scene in Kenya showing the usual form of boat for river transport
Photo: Union-Castle Line

on either side of a north-south ribbon, ranging from ten to forty miles in breadth so as to leave the walls of the resultant trench as steep as those of a moat.

The floor of the rift valley in Kenya alone—it extends through Tanganyika into the valley of the Zambezi—is strewn with no less than twenty lakes (beginning from Lake Rudolf) some of which, like Naivasha (6000 feet above sea-level) and Baringo, are freshwater lakes, while others are more or less brackish. The rest of the floor of the valley is heaped with volcanic material—ash, conglomerate, lava and tuff—through which numerous extinct volcanoes protrude. The great mass of Mount Kenya, 120 miles in circumference and 17,040 feet high at its loftiest peak, is an extinct volcano, as is also Mount Elgon (14,140 feet). So also are the mountains which lie in or near the Tanganyika continuation of the Rift Valley, among them Kilimanjaro (19,710 feet), the highest mountain in Africa, Mount Meru (14,995 feet), not to speak of the still active volcano Ol Doinyo Lengai, and a chain of volcanic craters of which Ngorongoro is the most famous.

Forests of Kenya. Some of the richest forests of Africa occur in Kenya, not only on mountains such as the Mau and Aberdare ranges, but also on the plateaux of Nandi, Embwa, Sotik, etc. Where the height is such that they partake of the character of

temperate rain forests, the bamboo and juniper, or so-called pencil cedar tree, are the most common trees. In lower levels the forests are like the West African tropical rain forest. The rich soil, with which these and other parts of the Highlands are covered, extends as deep down as forty feet in parts, with the result that, while the yield of maize to the acre in the Union of South Africa is eight bags of 200 lb. each, in Nakuru, and other grain producing areas like Uasin Gishu and Trans Nzoia districts, yields of seventeen bags per acre are obtainable with but little effort. And two crops can usually be harvested every year, owing to the division of the rainy season into two.

The Lakes of Uganda. Large sheets of water are the most characteristic feature of Uganda Protectorate. It is true that Lake Victoria (26,628 square miles), the largest freshwater lake in Africa, is only partly within the Protectorate, as are also Lakes Albert and Edward. But these, and the sprawling lakes Kwamia and Kioga and a chain of smaller lakes in the south-west, have converted into something like an island fully a half of the Protectorate, leaving out only the dry and relatively unproductive north, from the Valley of the Nile to Lake Rudolf. Partly in consequence, and partly because the general level of the country is barely 4000 feet, Uganda as a



COFFEE PLANTATION IN KENYA

Photo: Rex

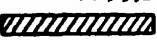





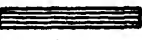






BRITISH EAST AFRICA

KENYA UGANDA TANGANYIKA ZANZIBAR

Distribution of POPULATION in thousands at 1948 Census



Total	5181.8	Total	4993.9	Total	7074.2	Total	264.2
Europeans	29.7	Europeans	3.5	Europeans	10.6	Europeans	0.3
Indians	97.7	Indians	35.1	Indians	46.3	Indians	15.9
Arabs	24.1	Arabs	1.5	Arabs	11.1	Arabs	44.6
Africans	5027.0	Africans	4953.0	Africans	7004.0	Africans	203.4
Others	3.3	Others	0.8	Others	2.2		

PRODUCTION 1950 in thousands of tons

WHEAT	 126.9	GROUNDNUTS	 103.5	WHEAT	 8.0	CLOVES	 39.6
MAIZE	 100.1	MAIZE	 142.5	SISAL	 121.6	(in millions of lb.) (Cloves and Clove Oil account for 76.4% of total exports. The only other commodity of importance is Copra and its by-products - 21.8% of total exports)	
SISAL	 39.8	COTTON	 67.0	SISAL	 9.0		
COFFEE	 9.7	SUGAR	 54.6	SISAL	 8.6		

GOLD	22,955.8	570.7	65,037.3	in troy ounces
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FOREIGN TRADE 1950 in £ thousands

IMPORTS		EXPORTS	
 34,078	 15,712	 24,000	 3,879
 17,182	 28,669	 23,768	 5,069

Trade of EAST AFRICAN CUSTOMS UNION in percentages				EXPORTS			
IMPORTS				EXPORTS			
25	45	10	56	35	49	10	51
Others	U.S.A.	India	U.K.	U.K.	India	U.S.A.	Others
Union of S. Africa				Union of S. Africa			



NATIVE LABOUR

Natives digging trenches for burying the earth leads of a wireless transmitter at Morota

Photo: R. Kingston Davies

whole is hot and humid. It is due to this that the general impression the visitor gets is that of a country where in spite of the wonderful variety of its flowering plants—there are about 170 different families of these, or more than twice the number in Great Britain—all around is green.

The character of the forests to be found near the lakes, the banks of rivers as well as the slopes of mountains, is that of the tropical West African rain forest, mixed in parts with tall deciduous trees. Otherwise the tree savanna is the characteristic natural vegetation, i.e., grasslands dotted here and there by trees. The grass is of two varieties: short grass three to five feet high, and tall elephant grass, which attains a height of ten to fourteen feet and is to be found not far from lakes and water courses. As in Kenya and Tanganyika, these



MOBRASA

Vasco da Gama Street, with white-washed houses designed to reflect the rays of the tropical sun

Photo: Kenya and Uganda Railways

grass areas harbour a very large proportion of the wild animal population of the country. Very few parts of Uganda are free from mosquitoes and consequent malaria; hence the country is not as suitable for White settlement as Kenya or Tanganyika. The foothills of the Ruwenzori on the west and of Elgon on the east are, however, claimed to be suitable for White settlement, as are also the Kigezi highlands, 6000 feet high and over.

Tanganyika Territory. Both geographically and geologically, Tanganyika Territory—which was formerly administered by the British Colonial Office—is a continuation southward of both Uganda and Kenya. Crossing into the Territory from western Uganda one finds a continuation of the much denuded plateau of Uganda, of an average altitude of 4000 feet. At 34 degrees east longitude, however, one encounters, on the way to the coast, the geology of the Eastern Rift Valley of Kenya in the Serengeti Plains, which, like the Kapiti Plains in Kenya, are of volcanic formation and grass-grown, and so much the concentration ground for wild animals as to have been declared a game reserve. The ground here is over 5000 feet high. To the east is the Arusha-Moshi highland which, merging with Mount Kilimanjaro, is the part of Tanganyika most thickly settled by White people. From parallel 34 degrees east seaward the face of the country from north to south is much broken by highlands standing in isolated blocks. The Eastern Rift Valley here becomes erratic in its course and mountain ranges and hills are thrown up within a short distance of the coast.

In south-western Tanganyika the Eastern Rift Valley describes a rough sort of Y with another and similar rift valley; the Western Rift Valley, the path of which is traced out by the chain of deep-sunk and cliff-edged Lakes Tanganyika, Kivu, George, Edward and Albert, the last three forming part of the western boundary of Uganda. Lake Nyasa forms the stem of this rough Y. South-western Tanganyika is a country of comparatively high mountains (e.g., Livingstone Mountains, 8000 feet) and plateaux, and is climatically suitable for White settlement. But the sporadic spacing of the highlands of the Territory as a whole is a disadvantage in the matter of communications and transport.

Except on the Highlands the climate of Tanganyika is hot and dry. Much of the territory is undulating grassland, although there are open forests in parts. Several

areas are infested by tsetse flies, the carriers of the germs of sleeping sickness, where it is not possible to keep cattle. Antrycide, the hoped-for remedy, has not come up to expectations, like the ill-fated Groundnuts Scheme which was abandoned in 1951.

Zanzibar and Pemba. Like Madagascar, Zanzibar and Pemba at one time formed a part of the mainland of Africa, but have been detached for such a considerable time past that their fauna seems to have followed a course of evolution slightly different from that of the mainland. Pemba exhibits this more clearly than Zanzibar. Both islands are noted for the amazing variety of exotic plants which have been introduced into them from various parts of the world, chiefly by the Portuguese. Clove, the cultivation of which has now become the principal industry of both islands, was introduced by an Arab in 1818. Zanzibar, together with Pemba, produces 80 per cent of the world's cloves, the annual exports being more than 11,000 tons. The second important crop is copra, or dried coconut, the oil from which forms another valuable export. The climate is hotter and more humid than that of Mombasa, and the rainfall much heavier. The permanent population of both islands is Asiatic and African. Of the total population of approximately 264,000, about 200,000 are Africans, 16,000 Indians, and 44,500 Arabs. Europeans number only about 300. Both islands are ruled from the capital, Zanzibar, by a Sultan, with the British Resident acting in an advisory capacity.

East African Economic, Political and Social Problems. British East Africa boasts of a settled European population as well as an Asiatic one of Arabs and Indians, beside the indigenous African population. This fact has complicated in no small degree the economic, social and political problems of the three main component Territories, in particular those of Kenya.

The Arabs of Kenya, who are settled on the coast, have been unable to adjust themselves to their changed economic situation since slavery was abolished, and have been comparatively neglected by the Administration until quite recently. The Indians are the great middlemen of the country. Their presence all over the hinterland to-day is largely due to the requirements of labour in railway construction work in the early days of the East African Administrations. For some time past, however, a large number of them who, as in Uganda



TURKANA SCOUTS

This photograph, taken at Lokitaone, shows the usual arms and head-dress of a native force, which has done much to preserve order

Photo: R. Kingston Davies

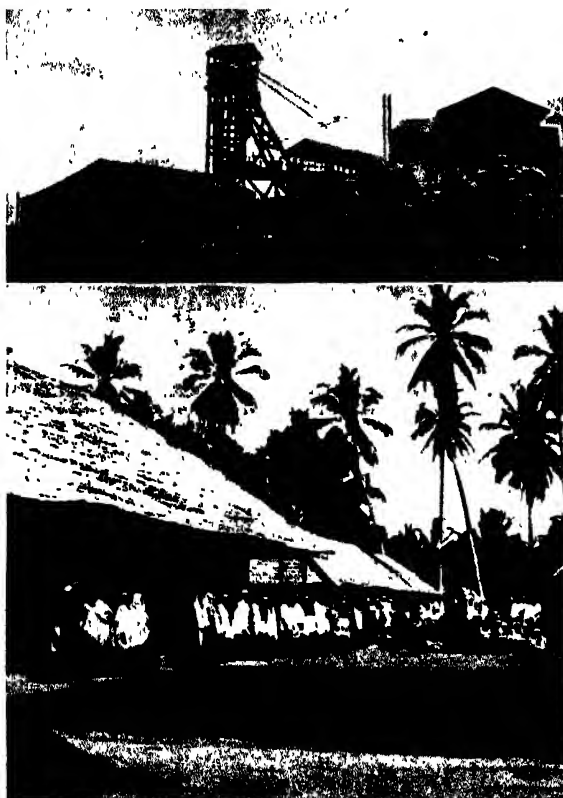
and Tanganyika, had previously found employment either as clerks or as technicians in the civil and railway services, have found themselves being gradually elbowed out in order to make room for the younger generation of Whites, on the one hand, and of the Africans, who are paid much less, on the other. Many of them would, therefore, like to go on the land. But before the last war 11,000 square miles of the Highlands had been alienated on more or less nominal terms to some 2100 European grantees. From this area, known as the White Highlands, non-Europeans are excluded as landholders. What remains (total area of Highlands is less than 32,000 square miles) is partly forest reserves (some 2920 square miles) and partly under occupation by Africans.

All but about 200,000 of the 5,030,300 total African population are to be found congregated in the legally circumscribed native reserves of



A SETTLER'S HOME IN KENYA

Photo: Kenya and Uganda Railways



INDUSTRY OF EAST AFRICA

Above: A gold mine in Kenya. Below: The staff of a clove plantation in Zanzibar

Photos: Fox; Photographic Publications

a total area of—including land of less than 5000 feet high—46,837 square miles. They have enormous holdings of livestock—about 5,000,000 cattle, 3,000,000 sheep, and 4,000,000 goats—and, with their numbers increasing, their standard of living becoming more and more hygienic, and the pressure of taxation brought to bear upon them, they have a great land hunger. Both they and the Indians are, therefore, at one in claiming to be allowed as landholders on the White Highlands.

After the 1939-45 War plans were started for the development of the natural resources of Kenya and Uganda, the education of the natives and the improvement of social conditions. The plans included proposals for soil preservation and the development of agriculture, the establishment of training schools, the building of houses and the inauguration of health services. Provisions were also made for research and better communications.

Beside maize, wheat and coffee, the Europeans of Kenya raise potatoes, wattle (the bark of which is used for tanning) and pyrethrum

(used for insecticide), which are grown on the high plateaux, sisal, and tea. Pastoral farming embraces ranching and dairying. Wool is an article of export, and mixed farming is gaining ground.

Native Peoples. There are more than thirty different tribes in Kenya, among the most important being the cattle-keeping, agriculturist Kikuyu, Luo, Kamba, and Nandi, and the wholly pastoral Masai. These tribes are all distinguished by the relatively simple and democratic character of their political organization. Government is in the hands of the elders of each local group and (despite the recent Mau-Mau troubles) there is no real imposition of central authority even upon constituent groups of the same tribe. The crops they raise are maize, millet, sweet potatoes, sugar cane and cassava (proof against the ravages of locusts), and, since the advent of White settlers, Irish potatoes, cotton and wattle bark. Pastoral products are butter, cream, and ghee.

The Masai in Kenya number 50,000, and



NATIVE LIFE IN KENYA AND TANGANYIKA

Above: Nyakusi Dance at Tuku in Tanganyika. Below: A tribe moving to new pastures on the northern frontier of Kenya

Photos: R. Kingston Davies; P. Hoeller



CONTRASTS IN BRITISH EAST AFRICA

1. A bamboo forest, growing at between 9,000 and 12,000 feet. 2. A native trap for fish in the Kivira River, Tanganyika. 3. Mount Kilimanjaro, the highest mountain in Africa. 4. An ox-cart on the forest road to Kiambu

Photos: R. Kingston Davies; Kenya and Uganda Railways

their staple food is milk curdled in blood drawn from the veins of living animals. There are about thirty head of cattle to each Masai.

Tanganyika's native population of 7,004,000 includes pygmies, several peoples of Zulu stock and Bantus. As in Kenya and Uganda, wherever the country is free of tsetse, cattle-keeping is combined with cultivation. The Masai, who are found on both sides of the Kenya-Tanganyika frontier, are the only purely pastoral people. The Wa-Chaggas, who inhabit the foothills of Mount Kilimanjaro, are an example almost unique in East Africa of an agricultural people who practise the stall-feeding of cattle. They are very industrious agriculturists, and are among the leading producers of coffee in Tanganyika Territory. The crops raised by Tanganyika natives are the same as those raised by Kenya natives.

The native population of Uganda of

4,953,000 includes pygmies of the Semliki Valley, the giant Turkana (related to the Masai), as well as such important Bantu groups as the Baganda, the Banyoro, the Basoga the Batoro and the Banyankole. There are also Nilotics, e.g. the Teso and the Lango.

Model Native Government. Long before Uganda became known to the White man, the Baganda had been enjoying a well-organized and centralized system of government which comprised, beside the king, a prime minister, a minister of justice, and a treasurer, together with an army of territorial chiefs which formed a sort of civil service. This system had until recently been retained intact under the British Administration, and was also often held up as a model for the politically less well-knit groups. With the exception of India, Uganda is the largest cotton producer in the British Commonwealth.

Minerals and Manufactures. The principal mining industries of British East Africa are gold in all three territories, diamond and mica in Tanganyika, tin in Uganda, and carbonate of soda, obtained from the natron deposit of Lake Magadi in Kenya. The manufacturing industries are cement, jam, bacon-curing, flour-milling, coffee-curing, sisal-plant shredding (also in Tanganyika), tanning extract works, all in Kenya; tobacco and cigarette manufacture in Uganda and Tanganyika; creamery establishments and breweries of ale and beer in Kenya; sugar works, tea-factories and cotton-ginning plants, saw-milling and furniture works in all three territories. Distillation of power alcohol and methylated spirit is an important by-product of the sugar industry in Uganda.

The Towns. With the exception of Nairobi and Entebbe, the most important towns of British East Africa are maritime and lake ports as well as native towns. All other so-called towns are but glorified villages, boasting of "large" railway stations and possibly aerodromes, garages, and certain other amenities.

Nairobi, which is the administrative capital of Kenya, is also the commercial capital of the

White Highlands. It is the headquarters of the East African Railways Administration.

Mombasa, with a mixed population of 52,000, including 1250 Europeans, is the chief port and commercial capital not only of Kenya but also of Uganda. It has an up-to-date harbour in Kilindini.

Entebbe is important only as being the administrative capital of Uganda. Its population of 7000 includes about 1000 Europeans.

Kampala, population 3000, including 700 Europeans, is the seat of the important Native Government of Baganda.

Uganda now finds herself in the middle of United Kingdom—South Africa and Cairo—South Africa air routes and is gaining importance from this fact.

Tabora, formerly a great centre of the slave and ivory trade, with a population of 30,000, is the largest town in the interior of Tanganyika. It is on the Central Railway. It has a small White population and sugar factories.

Dar es-Salaam, the capital and chief port of Tanganyika, is the coast terminus of the Central Railway (1000 miles) to Kigoma (on Lake Tanganyika) and Mwanza (on Lake Victoria).



THE CITY OF NAIROBI

The sweeping main street, Delamere Avenue, and some of the buildings erected along it during the past fifty years

Photo: P. Hoeller

FEDERATION OF RHODESIA AND NYASALAND



CULTIVATION IN RHODESIA

Ploughed fields and wheatlands against a mountain background

Photo: High Commissioner for Southern Rhodesia

THE FEDERATION OF RHODESIA AND NYASALAND, which came into existence in 1953, comprises Northern Rhodesia (287,640 square miles), Southern Rhodesia (150,333 square miles), and Nyasaland (47,349 square miles), and broadly speaking it occupies the whole of the central plateau of Africa north of the Transvaal.

Northern and Southern Rhodesia. The boundaries of the Rhodesias are not fixed by any obvious natural or ethnological features. They were come by in the scramble for Africa, when each European Power snatched at what was in its reach, and only stopped when it came to ground already claimed by another

Power. The actual boundaries are, therefore, purely empirical, but, roughly speaking, they follow the Limpopo River on the south, the divide between the Zambezi and Congo catchments on the north, and the fall of the plateau on the east. On the west there is no semblance of a natural boundary except the most indefinite edge of the Kalahari Desert.

Soil, Vegetation, and Crops. In the main, Rhodesia is a rocky country with only a thin covering of soil. Two-thirds of Southern and practically the whole of Northern Rhodesia is bush-covered country. The rivers on the plateau are small and do not lend themselves to irrigation on a large scale, but on a small

scale it is practised and is very profitable. Below the 2000 feet contour the country is mostly truly tropical in character, often arid; and in any case most unhealthy for man and beast. Above the 2000 feet line it gradually improves in character and healthiness till at 4000 feet in Southern Rhodesia and 5000 feet in Northern it becomes a land eminently suitable for man, European or native.

Practically every known European or tropical cereal, vegetable, or fruit, will grow and thrive



THE VICTORIA FALLS

The picture shows the islands above the Falls, the Gorge and the railway bridge

Photo: High Commissioner for Southern Rhodesia

in some part of the country. In tobacco, Rhodesia is lucky, for certain districts can produce a leaf similar to that grown in Virginia which is acceptable to the English market, but the quantity that can be grown exceeds the present demand and the market is not yet secure. On poorly cultivated lands maize yields a crop of some six bags (1200 lb.) to the acre, and will continue to yield profitably for three years, but no longer. With good cultivation this yield could possibly be doubled.

Pasturage and Livestock. The pasturage from end to end of the country is excellent and droughts are never severe. Horses, woolled sheep, and Angora goats will not thrive under any circumstances. Horned cattle do excellently with care. In southern Africa no European animal, not even the rabbit or the pig, has ever run wild. This is not due to the great epidemic pests which have ravished the country from time to time, but to a number of endemic, parasite-borne diseases which have only lately been recognized. The indigenous fauna is immune to these.

Before dipping was introduced the owner of cattle bred "in the thorns," i.e. below 4000 feet, was lucky if he succeeded in rearing 40 per cent of the increase. Dipping was introduced about the year 1900 as a preventive to East Coast fever, and the practice has been of inestimable value to the country, for, by killing the ticks and parasites, it has not only effected its original object but has also saved the young stock.

The Tsetse Fly. The tsetse fly exists in some low-lying districts in Southern Rhodesia and over large areas in Northern Rhodesia. Where it exists it is deadly to every European animal, and, in areas infected with sleeping sickness, to man also. Luckily the tsetse is strictly confined to localities. Where it exists it abounds, but where it does not abound it is entirely absent. Tsetse, however, tends to die out when the country is occupied by Europeans. It has vanished from the country south of the Limpopo.

Future of the White Population. To sum up the agricultural and pastoral possibilities of Rhodesia it may be said that the country can grow all the essential necessities of life, including even tea and coffee, in far larger quantities than are needed by the present population and at a cost no greater than that prevailing in similar lands, but transport costs, and the fact that there is at present no special crop to command its own market, prevents any major inroad into the world markets. With regard to cattle and dairy products the same statement is true; for the world's markets Rhodesia competes at a disadvantage. The future numbers of the European population of Rhodesia must depend on the markets for its produce and on the standard of living demanded by the producers. The present standard of living is extremely high, and, with the existing markets, the numbers cannot be very much increased, but if the population accepted a standard of living similar to that of European peasants Southern Rhodesia might become a densely populated country. In Northern Rhodesia there is very little territory suitable for European settlement, and what there is is mostly already occupied.

Kalahari and Zambesi. Rhodesia shares with South Africa the distinction of being one of the oldest land surfaces in the world. Two great changes have taken place in Post-Tertiary times. The first is the retreat of the boundary of the Kalahari Desert westward. Sand dunes of Kalahari origin still exist as far east as

Salisbury, Livingstone, and Lusaka. The boundary to-day may be taken as 150 miles west of Bulawayo. It is possible that this process is now being reversed and that the Kalahari is again advancing eastward. The drying up of the Makalakari Pan and of Lake N'Gami seems to indicate this, but there has been no recorded diminution of the rainfall.

The other great change has been the "be-heading" of the Zambezi River. It is evident that the upper Zambezi once flowed into the

the Matabele nation. In Northern Rhodesia the Basuto invasion of Barotziland and the Zulu raids on the Nyasa side, also upset all tribal organizations, and when about 1840 Arab slave traders began to raid the territory, confusion was worse confounded. There are not, therefore, in either Northern or Southern Rhodesia any tribes left who have dwelt long enough in any one locality to have developed characteristics and customs from their present environment.



SALISBURY

Stanley Avenue, one of the main shopping centres

Photo: High Commissioner for Southern Rhodesia

great depression marked by the Makalakari Pan and Lake N'Gami, and from thence possibly overflowed, either down the Shashi Valley to the Limpopo, or into the Molapo and the Orange Rivers.

Native Peoples. Of the history of Rhodesia prior to the time of Livingstone we know very little. A very primitive type of Homo—given the specific name of *Homo rhodesiensis*—once lived in Northern Rhodesia and the skulls of primitive types of "ape-men" were found at Taungs and other places in the Union to the south of Southern Rhodesia. Before the Bantu, the Bushmen occupied the land, and the caves are still full of their drawings. About 150 years ago there was great turmoil amongst the Bantu of southern Africa. An emigration of Basuto took place from the country now known as the Orange Free State, which swept 1000 miles to the north and established the Barotzi kingdom. Later Mozalakatzi, with Zulu hordes, exterminated all the natives on the Transvaal High Veld and, when defeated by the emigrant Boers, fled north and repeated the slaughter on the Rhodesian plateau, where he established

The Matabele are a high-class race of magnificent physique and military virtues, but do not take kindly to industrial work. The other tribes have more servile virtues and vices and make better workers for the Europeans. In Northern Rhodesia the Barotzi are a fine, well-organized nation, with a very high standard of native culture, and are accepting European standards with considerable intelligence. The future of this people as a nation seems most hopeful. With the exception of Barotzi in the upper Zambezi Valley, the native population of Northern Rhodesia is very scanty and very inferior in organization and character. Those remnants of tribes which have survived the slave raiding and pestilences of the past have lost all the cohesion and customs which might have had a survival value. Their health is very bad and the infantile mortality is enormous. Witchcraft rules the lives of these people.

Malaria and the European. With regard to Europeans, malaria was rife in the early days from one end of the country to the other. To-day at altitudes over 4000 feet in Southern



ROAD MAKING

Asphalt strips in the road from Salisbury to Morandellas, giving a partly metalled road which is passable at all seasons

Photo. High Commissioner for Southern Rhodesia

Rhodesia it can be disregarded. At all levels in Northern Rhodesia it must be considered, but with modern knowledge, and educated intelligence to use it, it need never be feared. The first generation of country-born European Rhodesians began about 1895, so there are now three generations of native-born citizens of European blood. Far from showing any signs of degeneration these need not fear comparison with any men in the Empire.

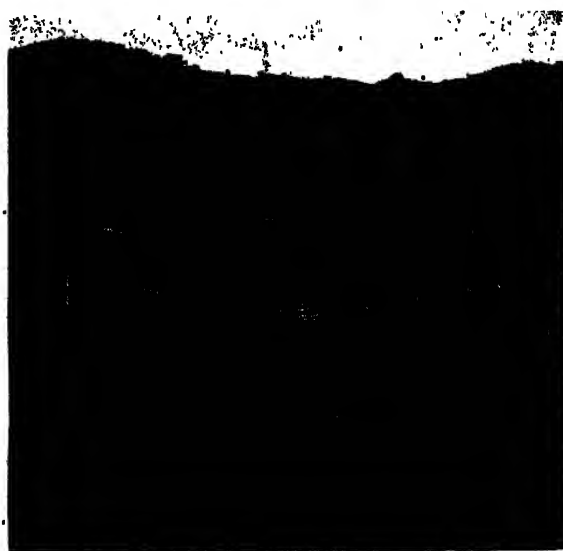
Climate. The climate of Southern Rhodesia is ideal. The air is fresh even in the hottest sun and the nights are always cool. In winter frosty nights are common. In Northern Rhodesia, however, both days and nights are often extremely oppressive. The rainfall occurs in the summer months from October to April. It varies with the altitude, but, on the plateau, is from twenty-inches in the west to over fifty inches in the east. It is worth noting that a fall of twenty inches is sufficient for the crops cultivated; sixteen inches is quite insufficient for crops but sufficient for pasturage; below that limit pasturage begins to suffer.

Rivers. On the plateau there are no rivers of importance, but numbers of small streams that are almost, if not quite, perennial. The Zambezi, the Kafue, and the Loangwa in Northern Rhodesia are, however, mighty rivers judged by any standard. The Zambezi, on the lip of the Victoria Falls, is as wide as the distance from the Marble Arch in London to Tottenham Court Road (1900 yards). The Victoria Falls are 353 feet high and show in plan like a T-square. The water falls into the chasm indicated by the bar of the T and flows out by the gorge represented by the shank.

The Kafue carries almost as much water as the upper Zambezi. Both these rivers are navigable for some hundreds of miles in their upper valleys. The Loangwa is also a great river, but it runs throughout its length in a ravine, up to 2000 feet in depth, which cuts off north-western from north-eastern Rhodesia. A bridge has now been made over this river. Only political reasons could ever have justified the separation of north-eastern Rhodesia from Nyasaland, to which it naturally belongs.

Kopjies. Rhodesian scenery, outside the broken country of the escarpment, is apt to be monotonous, but on and around the escarpment it is beautiful. A unique feature of the Southern Rhodesian landscape is the constant presence in it of one or more *kopjies*. A Rhodesian *kopjie* is similar to a Devon tor. It may be up to 200 feet in height and a mile or more in circumference or only as large as an English haystack. It consists either of one solid mass of bare granite or a heap of immense blocks piled one on the top of the other. *Kopjies* usually stand alone or in small groups; in some places, however, as in the Matopo Hills, they stand in mobs, literally hundreds of them, but each one on its own base distinct from its neighbour; among them, and inside many of them, men can move about in all directions. These make the notorious caves of the Matopos.

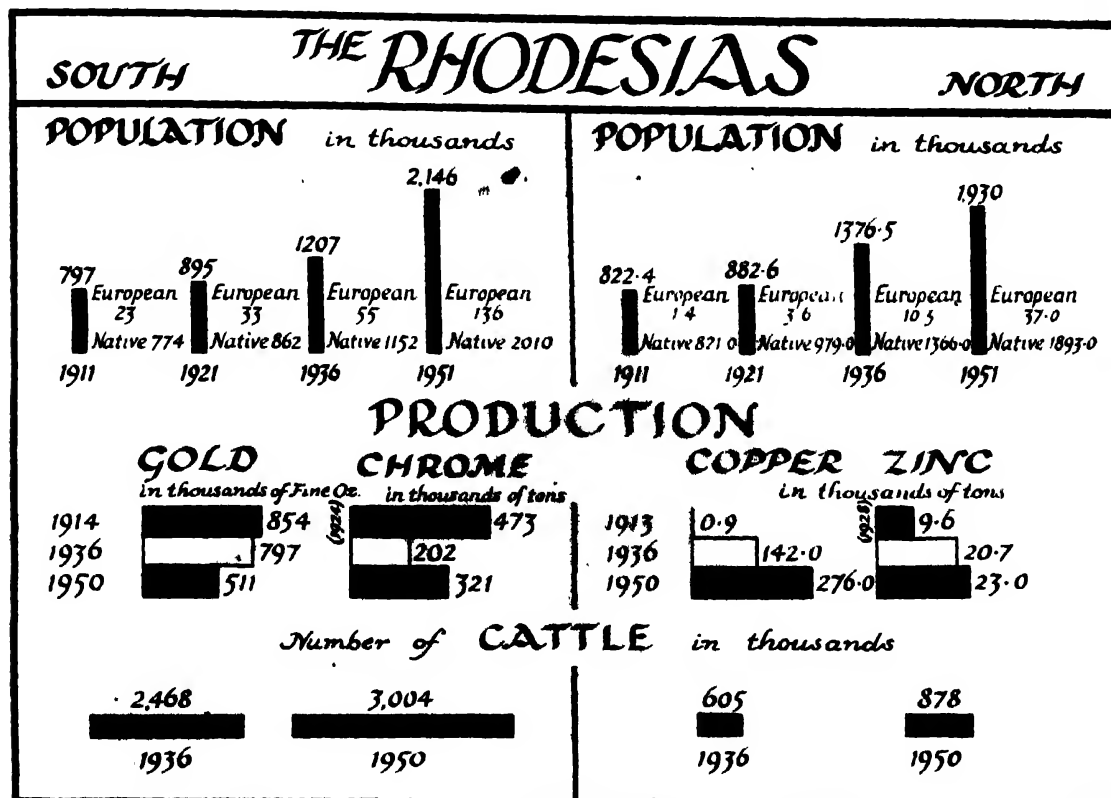
"Dambos" and "Ant" Hills. In Northern Rhodesia the landscape is mostly a vast monotony of bush and forest. *Kopjies* are infrequent and the only features are the *dambos*



TOBACCO HARVEST

Sun-drying a rich harvest of tobacco from the central plain

Photo: High Commissioner for Southern Rhodesia



and the "ant" hills. A *dambo* is a swamp-filled valley devoid of trees. When the relief of the country is low every depression or valley is a *dambo*. They are often impassable even on foot except along native tracks, and are always difficult. The "ant" hills—the "ants" are termites—in Northern Rhodesia attain incredible dimensions. Hills 160 yards in circumference and forty feet in height have been measured. They are quite massive and are usually covered by a special growth of bamboo which only occurs on them. These "ant" heaps are of economic importance, for in laying out a town, or a road, it may cost hundreds of pounds to remove them or to avoid them. On the other hand they are an asset, for all the bricks in the country are made from the earth of which they are formed.

Mineral Resources. The mineral wealth of the Rhodesias is immense. In Southern Rhodesia it is based on gold, chrome, iron ore, coal and asbestos and in Northern Rhodesia on copper, zinc, cobalt and vanadium. The mineral deposits in the north part of Northern Rhodesia are particularly large and have attracted considerable capital.

In Southern Rhodesia this wealth is scattered throughout the length and breadth of the land.

In Northern Rhodesia, on the other hand, the copper mines all occur in one locality on the extreme northern border and are worked by huge corporations controlling immense capital. The copper deposits are, in their way, as unique as are the gold reefs of the Rand, in that the metal does not occur in irregular lodes and veins, which are cracks in the surface of the Earth, but in sedimentary beds, which are as regular and as continuous as coal seams, and can be mined with equal facility. Cobalt is a by-product of the copper mines and the lead and vanadium of zinc mines. The equipment of the mines and the housing and living amenities of the employees, both European and native, are up to a standard formerly undreamed of in the world.

Communications. Rhodesia is served by three railway lines to the coast. The main line from Cape Town and the Cape ports passes through Bulawayo and Salisbury and on to Beira in Portuguese East Africa. At Bulawayo this line divides and one branch goes north past the Wankee coal-field, the Victoria Falls, and on through Northern Rhodesia past the capital, Lusaka, to the Congo and thence to the coast at Lobito Bay. In Southern Rhodesia there are also several short branch lines.

Regular air services are operated from Lusaka to Salisbury, Mongu, Fort Jameson and Nairobi. The air route from Cairo to the Cape calls at Salisbury and the European route via Tripoli and Khartoum to the Cape, at Victoria Falls.

The Towns. The principal towns of Southern Rhodesia, Salisbury (population 83,100, Europeans totalling 40,000) and Bulawayo (population 75,000, Europeans totalling 32,000), are still small as towns go, nor have they yet attained any architectural distinction, but they are both laid out on a grand scale on rectangular plans with immensely wide streets.

In the business parts of the towns, though there is no ostentatious building, the premises are up to a very high standard and so are the goods in the shops; both would compare very favourably with those in an English provincial town. The residential districts are beautiful, especially in Salisbury. As no natives except domestic servants live in the towns, there are no slums or "native quarter."

In Northern Rhodesia there are no towns of importance, but N'Dola, the centre of the copper-bearing area, may well become one, for the trade, with all the population supported by this industry, is justifying more than a simple mining camp. Broken Hill promised at one time to become a town, but in the last decade has

been entirely outclassed by N'Dola. Lusaka, the new capital, is very well laid out and with prosperity may become a very pleasant residential town, but at present it is no more than a village in a farming area to which a number of Government buildings and residences have been attached. Livingstone, the old capital, is a very pretty village of bungalows, smothered in trees, situated seven miles from the Victoria Falls. It gains some profit from the tourist trade.

Nyasaland. The territory of the smallest member of the Federation lies along the west and south shores of Lake Nyasa and extends southwards to Chiwongo on the River Shire, cutting a deep wedge into Portuguese East Africa. Lake Nyasa and the Shire valley are part of the Great Rift Valley. To the west lie the Nyasa highlands, rising to over 4000 feet.

Elevation modifies the high tropical temperatures and a great variety of crops is grown, among them tea, tobacco and cotton, but apart from cotton ginning and a few tea and tobacco factories there is no industry worthy of the name. Salima (Lake Nyasa) is linked with Beira by rail.

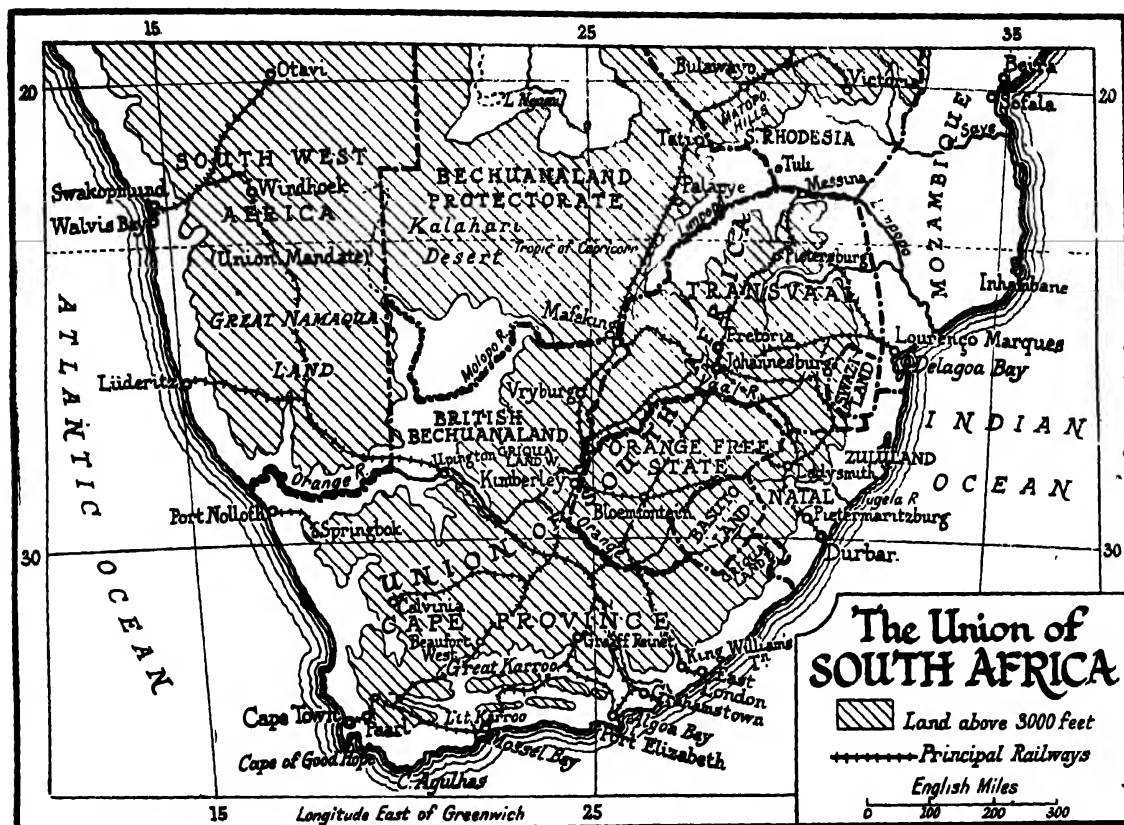
Zomba, in the Shire highlands, is the administrative centre. Blantyre, the chief White settlement, was originally a missionary centre.



CATTLE GOING TO WATER AT GWELO

Photo: High Commissioner for Southern Rhodesia

THE UNION OF SOUTH AFRICA



THE term South Africa can be, and is, defined in two different ways, one political and the other geographical. Politically, it embraces Cape Colony, or the Cape Province as it is now more widely known, Natal, the Orange Free State, and the Transvaal—the four British colonies welded into the self-governing Dominion of the Union of South Africa by the Act of Union which came into force in 1910.

Geographically, however, the term South Africa implies roughly all the continent of Africa south of the River Zambesi. That is to say, geographical South Africa comprises, in addition to the territories in the Union, South West Africa (the mandated territory now administered by the Union Government under

the South West African Affairs Amendment Act, 1949; the Protectorates of Bechuanaland, Basutoland, and Swaziland, administered by the Imperial Government through a resident High Commissioner; Southern Rhodesia, and the greater part of Portuguese East Africa.

The geographical make-up of South Africa is simple. For the greater part, it is a huge plateau between 3000 feet and 5000 feet above sea-level, terminating in the east and south in an escarpment ridge several hundred miles in length. This escarpment is the Drakensberg, a chain of mountains which rises in its highest peaks to over 10,000 feet, and is responsible for the arid climate of the plateau, as it intercepts the rain-bearing winds blowing from the Indian Ocean. The plateau is the veld.

Influence of Rainfall. The veld follows closely the African coastline, and along the western, southern, and south-eastern coasts comes down quite close to the sea. On the eastern coast, the Drakensberg recedes until, in Portuguese territory, there is a coastal plain, wet and malarious, over 100 miles wide. In contrast, the veld itself is dry. The prevailing wind blows from the south-east and is intercepted by the tall barrier of the Drakensberg. Consequently, the farther westward from the Indian Ocean, the scarcer is the rainfall. In the southern seaboard of Cape Province, in Basutoland and Natal, in the eastern Transvaal and in Southern Rhodesia, rainfall is over twenty-five inches a year. In parts of these

There is no doubt that the Drakensberg range constitutes one of the most imposing mountainous spectacles in the world. It is 1400 miles in length, and though there are ranges higher in elevation and more rugged in character (Giant's Castle, the highest peak, is only about 10,880 feet above sea-level) there are few so sombre and majestic. At its climax in Basutoland, deep valleys lead up to mighty walls of rock—a sight which never fails to inspire awe in its viewers.

In contrast, the veld is monotonous—great spreading plains of waving grass or scrub interspersed with flat-topped hills of irregular plan. Composed of shales, sandstones, and sheets of dolerite stratified almost horizontally, it can



AN OLD TRAIL

A covered waggon drawn by donkeys on the road to Pietersburg, which crosses hundreds of square miles of veld, the typical vegetation of which is shown in the photograph

Photo: South African Railways

territories it is considerably in excess of this figure. On the other hand, in Bechuanaland and South West Africa there is desert country.

It is, therefore, plain that, as in Australia, rainfall is vitally important. In the Union of South Africa, or South Africa political, the mean annual rainfall is roughly nineteen inches. Natal is the best watered province, but the wettest area is in the mountainous district near Paarl, Cape Province, in parts of which an annual rainfall approaching 200 inches has been recorded.

Geographically, the Union is composed of part of the veld and a seaboard plain, the two regions being separated by the Drakensberg escarpment. Though known more familiarly as the Drakensberg, the escarpment possesses specific names according to the different districts in which it lies—thus the Drakensberg of the Transvaal, the Drakensberg or Quathlamba of Natal and the Transkei, the Stormberg of the north-eastern Cape Province, the Sneeuwberg, Nieuweveld, Komsberg, Roggeveld, and Kamiesberg farther south and west.

be divided into several regions more or less sharply defined by the shape and character of the surface and climate. These regions are ten in number and are the High Veld, the Basuto Highlands, the Upper Karroo, the Namaqua Highlands, the Kalahari, the Kaap Plateau, the Middle Veld, the Central Transvaal Bushveld, the Limpopo Highlands, and the Low Country.

The High Veld. From an economic standpoint, the most important of the ten regions to South Africa is the High Veld, for not only is it here that are found the gold beds of the Witwatersrand, the most phenomenal ever discovered, but also large coal reserves and diamond deposits. Gently undulating grass country, the High Veld is endowed with a fair rainfall and an invigorating climate devoid of excessive heat which makes possible European habitation on a large scale. Winter is cold, with bitter winds blowing across the open veld.

In the centre of this region stands Johannesburg—the “Golden City.” Founded as a



NEAR THE TUGELA GORGE IN THE DRAKENSBERG

Photo South African Railways

result of the discovery of the precious metal some seventy years ago and dependent for its prosperity on the same source, Johannesburg is the premier city of the sub-continent. It lies on the flat plateau, a neatly-planned cluster of skyscrapers and boulevards, surrounded, like Roma, by a circle of hills—the dumps of the gold mines. In Johannesburg and its outlying suburban towns, Germiston, Boksburg, Krugersdorp, Brakpan, and Roodepoort, are

the Kaap Plateau, which lies between the Kalahari Desert on the west and the Campbell Rand, an escarpment flanking the right bank of the Harts-Vaal Valley, on the east. Large manganese deposits are found at Postmasburg, and blue asbestos in the Asbestos Mountains and the Kuruman Hills.

Basuto and Namaqua Highlands. Of the remaining regions, the Basuto Highlands contain the highest peaks of the Drakensberg.



THE LANDSCAPE AND PEOPLE OF THE SWAZILAND PROTECTORATE
A tribe of Swazis fording one of the many rivers watering the pastoral country of Swaziland
Photo: South African Railways

found more European residents than in any other district of the Union. Sheep and cattle rearing and maize growing are the main farm industries of the High Veld.

The Middle Veld. The Middle Veld stretches from the point where the River Vaal meets the River Orange and thence north-eastward through the Transvaal. Lying between 3000 and 6000 feet above sea-level, with an annual rainfall of between fifteen and thirty inches, the Middle Veld presents many transformations of vegetation and scenery, from the wide grass flats with scanty scrub in the west, to the bare flat country of the east. In this region are the diamond mines of Kimberley and the iron ores of Pretoria. Agriculture is chiefly concerned with woolled sheep, maize, and cattle raising.

Minerals of importance are found also in

The upper streams of the Orange River system have eroded deep valleys in the surface, and the steep slopes of the mountains are in the sharpest possible contrast to the veld country. Rainfall here is high.

The Namaqua Highlands are part of the rocky edge of the veld and afford little scope for agriculture. Rainfall is low and the soil scanty, the region being formed of granite and gneiss. The Kalahari is desert country, having little or no surface water and generally a thick covering of sand. The monotony of the landscape is broken by short ranges of hills rising abruptly from ground level.

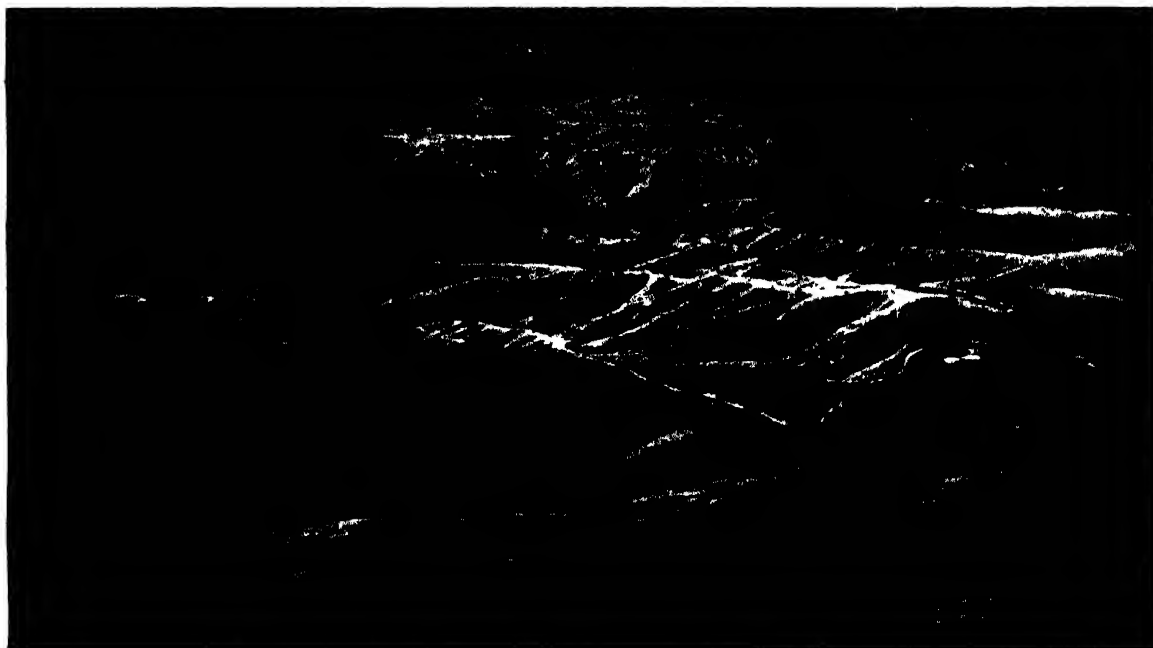
The regions which together form the veld are separated by the Drakensberg from the coastal plain, which stretches right round South Africa from north of Walvis Bay to Portuguese East Africa and beyond. The

height of the plain does not exceed 2000 feet and most of it is 1000 and under. From Capetown to Lourenço Marques the mean annual rainfall in this coastal plain is between twenty-five and fifty inches. North of Capetown that is to say in the most western parts of the Union, the mean annual rainfall in the coastal plain is less than twenty-five inches. In other words, on the west coast the desert comes down to the sea.

cloud, blotting out the landscape and penetrating even to the skin. Happily, dust-storms do not last long as a general rule and are usually followed by rain.

Violent hailstorms, which cause considerable damage, are met with, mainly in the Transvaal, particularly in November. One over Durban, Natal, on one occasion destroyed property and crops to the value of £250,000.

The Rivers. The rivers of South Africa,



UPLANDS OF NATAL

An aerial view of "The Valley of a Thousand Hills," deeply eroded and sculptured by Nature's forces into an expanse of rugged grandeur
Photo: South African Railways

Effect of Elevation on Climate. Both the weather and the climate are affected by the elevation of the land surface, and the distribution of pressure over sea and land favours an influx of warm, moist air on the eastern coast during the summer months. Consequently, most of the country receives its rainfall between October and March. The rains of the winter months, namely from July onwards, are confined mainly to the west, south-west and south of Cape Province. Temperature throughout the Union is remarkably uniform.

The most unpleasant feature of the climate is the frequent occurrence, principally in the latter half of the year, of dust-storms. Though not unknown on the coast, they are chiefly encountered in the inland districts. To be caught in one is a terrifying experience. The fine dust of the land rises as an enormous

which have played a very unimportant part in the country's development, fall into three divisions. The first includes all the rivers which eventually reach the sea by way of the Orange and Limpopo systems. In the course of the Orange River is found one of the world's great waterfalls, the Orange River Fall near Upington, Cape Province. This section drains the interior plateau.

The second division includes the rivers rising in the Drakensberg, of which the Tugela is the most important. The third region embraces the rivers rising in the Folded Belt, including the Berg and the Breede.

There are two unique facts concerning the drainage system. None of the rivers, with the exception of the Limpopo, the Zambezi, and the Pungwe, is navigable beyond its estuary, and the mouths of all the rivers are

obstructed by sand bars. Secondly, in the whole of South Africa there is not a single really natural lake. It is true that there is a small sheet of water called Lake Fundusi in the Zoutpansberg, but this was formed by a landslide.

Agriculture. It may truly be said that the full extent of the Union's agricultural importance has yet to be realized. Weather and climate make it possible for a variety of cereals to be grown. Wheat is cultivated but, though

include lucerne, teff, Kaffir corn, manna, ensilage and cultivated grasses. Lucerne is exported to Europe in the form of meal for poultry feeding. Potatoes are grown throughout the country, but the highest quality vegetable comes from the eastern Transvaal.

Sugar and Tobacco. Sugar production is of long standing, the first mill having been erected in Natal in 1849. Natal was long the chief centre, but within the last quarter of a



A FERTILE VALLEY

A fruit farm in the Hex River Valley, Cape Province

Photo: South African Railways

the acreage under seed is being increased, production is still insufficient to meet home demand. Rye, oats and barley are produced mainly for live-stock feed.

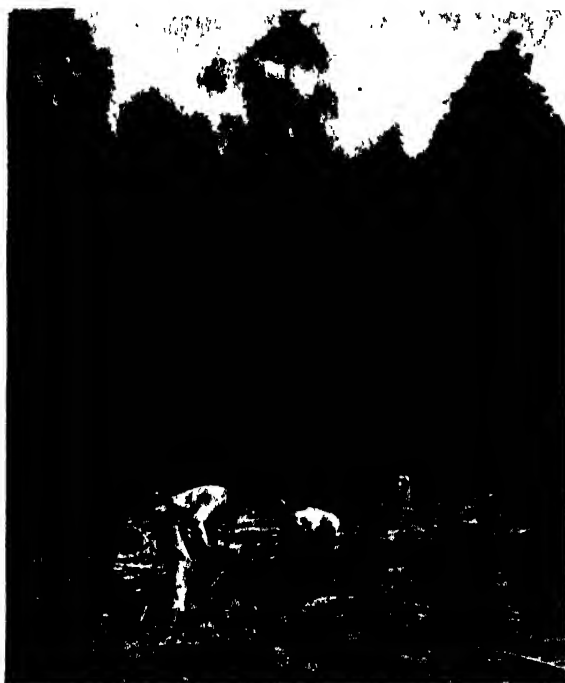
Maize of very high quality, apart from being one of the mainstays of South Africa's economic structure, is a picturesque feature of many landscapes. Perhaps no other industry has progressed at such a pace, even bearing in mind that, economically, the Union is a comparatively young country. In the opening years of the present century, maize production amounted to some 350,000 tons. Nowadays the annual production has increased nearly tenfold. The principal growing areas are the Transvaal, the Orange Free State, and Natal.

Fodder crops are grown regularly, and

century great progress has been made in cane cultivation in Zululand. The industry has received invaluable stimulation from fiscal legislation in the past, and the quantity of cane crushed yearly is now over 5,000,000 tons. There are two refineries in Natal.

Tobacco has been grown for many years, and is an industry of great possibilities. The South African Virginia type of leaf, grown for pipe smoking, is known as "Boer" tobacco. Cigarette blends are cultivated in two forms, a Virginian leaf and a South African-grown Turkish leaf. The chief producing areas are the Transvaal and the western Cape Province, the latter being the Turkish tobacco district.

Tea, coffee, and cotton are also under cultivation, but only in small quantities. Natal



FOREST CLEARING

Felling trees in one of the South African Government's forests
Photo: South African Railways

is the centre for tea, while the districts for cotton are Natal and the Middle and Low Veld.

Fruit Cultivation. The intense sunlight which is the keynote of the climate is nowhere better exemplified than in the fruit and wine farms. Fruit cultivation, both citrus and deciduous, dates back to the early occupation of the Cape, but it is only in recent years that the industry has become a staple activity. In 1900, 309 tons were shipped. Now the export is over 300,000 tons annually. Production is carried on throughout the country, and particularly in the Cape. No fewer than thirty-three types are grown on a commercial scale, including apples, apricots, bananas, figs, grapes, grapefruit, lemons, limes, mangoes, naartjes (tangerines), oranges, peaches, pears, plums, pineapples, and strawberries.

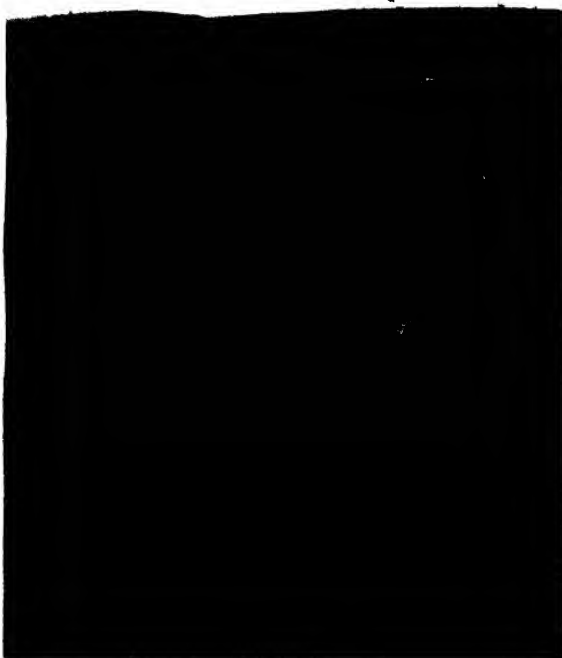
The vine was introduced into the Cape in 1655, three years after the historic landing of Van Riebeeck, who founded the first settlement. The early French Huguenots were expert in its cultivation and were swift to put their experience into practice in the new land. Paarl and Stellenbosch were the first centres of cultivation.

Cape Province has always been the main wine-producing district and to-day there are

extensive vineyards at Worcester, Robertson, Montague, Tulbagh, and Caledon, in addition to Paarl and Stellenbosch. The annual exports have exceeded 2,000,000 gallons in recent years. Cape brandy is an important adjunct to viticulture and in quality is not much inferior to that of French spirit.

Cattle Lands. Agriculture and pastoral production go hand in hand. The Union contains many hundreds of square miles of good grazing country, especially in the Transvaal and the Cape Province, though the areas in both Natal and the Free State are considerable. Large herds of cattle were found in the possession of the native tribes when the first settlers landed at Table Bay. In the early history of the Cape, cattle had to be relied upon as the means of transport and there was thus evolved a genus of great stamina and hardiness, which came to be known as the "Afrikaner" breed.

European breeds were introduced from Holland within the last 150 years, and British breeds in the second half of the nineteenth century. A virulent and widespread outbreak of the dreaded rinderpest disease was encountered after the Boer War of 1899-1902, and large numbers of the stock were wiped out. Since then, the herds have been increasing steadily. The Union now possesses 12,500,000



Tlhalalazi River, Natal
Photo: South African Railways



AGRICULTURE IN THE UNION

1. Picking grapes in the Hex River Valley. 2. A cotton plantation in eastern Transvaal. 3. Carting the corn on a Transvaal farm in a waggon drawn by a team of twelve oxen. 4. Land under irrigation at the Glen School of Agriculture. 5. Cutting a grass field in the Transvaal.

Photos: South African Railways

head of cattle in all, and the output of pastoral products is more than sufficient for local needs.

Sheep and the Ostrich. More important than cattle raising is sheep rearing, and the number of woolled sheep on South African farms is now over 32,500,000. The Union ranks fourth behind Australia, the Argentine, and New Zealand as a wool producer. Almost all the clip is shipped overseas.

Unique in South Africa's pastoral production are her ostrich farms. Thanks to the fickle dictates of fashion, ostrich plumes are not now so much in request by the *beau monde* as formerly and the industry has suffered in consequence. Hopes are continually entertained, however, that it will one day attain its pristine eminence.

Timber. The Union is not a well-timbered country, and the forest areas, though by no

means small, cannot compare with those of other parts of the Commonwealth. As a rough division, the timbered country can be separated into two classes—dense timber forests and scrub forests. The latter form the majority, and cover large areas in the Middle Veld, Natal, and the Transvaal. The mimosa tree is the most widespread species in these districts.

Timber forests occur at intervals all along the coastal plain, from the Cape to the Zoutpansberg range north of the Limpopo. They are found on the seaward slopes of the Drakensberg in the kloofs, or ravines, and usually within eighty miles of the seashore. Among the principal species of trees are yellow-wood, assegai stinkwood, sneezewood (a very durable timber), wattle, and kamassi.

Wattle is by far the most important. The bark is a valuable tanning medium and is

shipped in large quantities. Kamassi is in demand in Europe as it is eminently suited for the manufacture of weaving shuttles.

People and Population Problems. Such a story of achievement would, at surface, seem to presuppose the endeavours of a people at one in culture, ambitions and aims. It is something of a paradox that this presupposition is entirely erroneous. In regard to population, South Africa is totally unlike any other country in the world. Indeed, population, its constitution and allocation, forms the major problem facing the Union to-day.

There is no doubt that South Africa is a country with a very long prehistoric past. Many anthropologists believe that Africa was the cradle of the human race. Be that as it may, it is known that, when inexplicable climatic upheavals transformed the Sahara from a fertile region into a desert, there was a wave of migration of population towards areas with greater rainfall. Part of this wave went southward. Anthropological discoveries have established that primitive man was living in South Africa at a very early date. When considering the native population of South Africa it must be remembered that it continued its Stone-age form down to modern times. All the evidence available from thorough research points to the fact that the original inhabitants of South Africa were the Bushmen—savages of small stature, and, it is quite possible, related to the pygmies of the Congo. Huntsmen pure and simple, they neither tilled the soil nor kept cattle, relying upon their poisoned arrows to lay low their animal quarry and provide them with food.

In pursuance of a natural law, the Bushmen, whose one elevating trait was an artistic flair for drawing animals on smooth rock surfaces, were subjugated by the Hottentots, a good-humoured race whose pastoral occupations forced them south in search of grazing land. The Hottentots were in supremacy at the Cape when the Portuguese touched there in 1510.

To-day, both the Bushmen and the Hottentots are virtually extinct, though there are small tribes still living in the parched country of South West Africa. The death knell of the Hottentots, whose tractable characteristics might otherwise have saved them, was sounded in the eighteenth century by plagues of small-pox which they contracted from the Dutch settlers. They had mixed, however, with the Negro and Malayan slaves imported by the

Dutch and the more or less distinct race resulting is still in existence. This section of the native population is known as the Griquas, or Cape Boys.

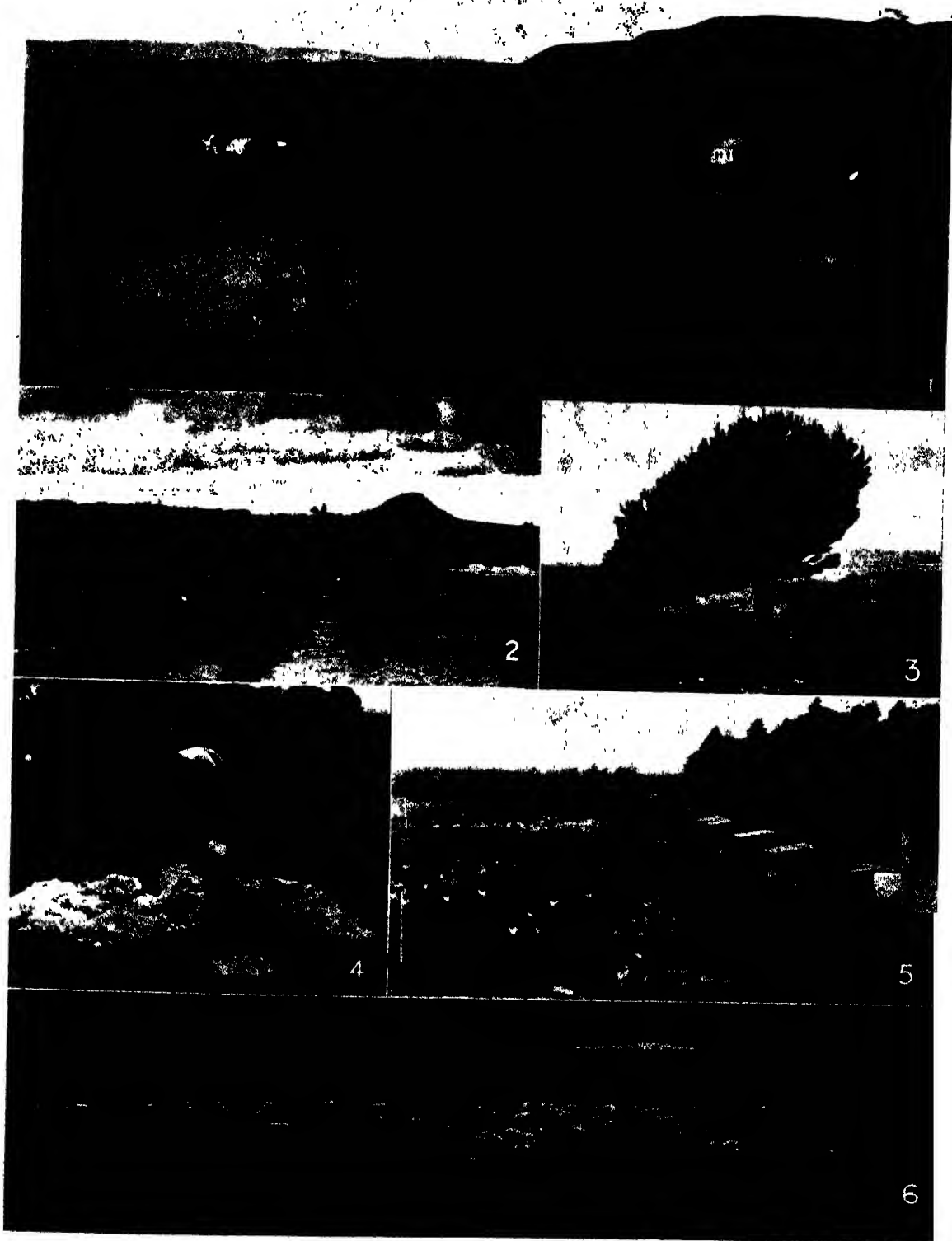
The Hottentots were themselves superseded by the Bantus, or Kaffirs, a strong, virile race which came from north of the Zambezi. The word "Bantu," which is derived from their own language, means "people." "Kaffir" is Arabic for "unbeliever," and was used to denote all who did not acknowledge the Moslem faith. The Bantus, whose physique in its perfection has long been the subject of admiration of the civilized world, lived a well-organized tribal existence, the laws of which were rigid and not infrequently bloodthirsty, thanks to the power wielded by the witch doctors. They reached their eminence in the Zulus, whose military prowess vanquished British arms on more than one occasion.

To-day, the natives of South Africa are included under the general names of Bantus or Kaffirs. In all, there are some 8,535,341 of them in the Union. The Griquas, whose origin has been mentioned, number some 1,100,000. In addition there are roughly 365,000 Indians, descendants of their countrymen imported into Natal as labourers.

The White population of the Union is well over 2,500,000, having exceeded that figure for the first time in the census of 1951. English and Dutch are, of course, the predominant races, and the mixture has led to two languages being officially recognized—English and Afrikaans. Afrikaans is Dutch degenerated as a result of the early settlers losing touch with their motherland, and would not be understood by a modern Dutchman.

The population statistics reveal immediately a state of affairs which is naturally disquieting from the point of view of the White people. Not only are they outnumbered by over three to one, but also the coloured section is increasing at a greater rate. The position in which South Africa finds herself in regard to population has no parallel in any part of the globe, and it constitutes her major problem.

At present, there is a White aristocracy ruling a black working class. This position is one of choice rather than necessity, as the South African climate does not prohibit a White man from labouring with his hands. About 1,500,000 natives work on European-owned farms. About 2,000,000 live in towns or in mining camps, supplying unskilled labour for the mines and the industries. The remainder, roughly



STOCK RAISING IN SOUTH AFRICA

1. An ostrich farm in the Oudtshoorn district. 2. A cattle ranch in the Transvaal. 3. A view of a rich pastoral country in which horses and cattle are reared. 4. Sheep shearing in the Orange Free State. 5. A poultry farm in the Transvaal. 6. A flock of sheep on a Transvaal farm

Photos: South African Railways



PEOPLES OF SOUTH AFRICA

1. An old Swazi warrior. 2. A typical Hottentot. 3. A young Bushman of South West Africa with bow and arrow

Photos. South African Railways

5,000,000, live in native reservation areas such as the Transkei.

The native industrial and mining population is constantly shifting. The individual Kaffir engages himself merely to "make his fortune"—a phrase considerably more modest than it sounds—having accomplished which he returns to the reservation. Thus, though only about 2,000,000 natives are engaged in industry at any one given period, a much larger number have actually come into contact with western mechanization. The influence such contact exerts on the native when he returns to the few remaining customs of the tribal organization need little imagination to conjecture.

The presence of vast quantities of native labour has created a class known as "poor Whites"—Europeans who are unfitted by mentality for other than manual work, who add to the population problem, which is even further complicated by the existence of numerous intelligent Africans who are excluded from skilled occupations by law.

In point of fact, all the major problems facing South Africa begin and end with the native. He occupied the land in the first place; if force of numbers constitutes a claimant right he would be successful now. Only by means of a progressive native policy will the Union of South Africa achieve the destiny that is surely awaiting her.

THE CITIES

Capetown. Capetown is the oldest city in South Africa. Indeed it is the only one of the chief cities which has a history extending much beyond 100 years. It is the mother city from

which civilization has spread all over the sub-continent.

Founded by the Dutch in 1652, in the days of Holland's maritime pride, the purpose of the earliest settlement was that of a halfway-house and place of replenishment for the merchantmen sailing to and from the East Indies. Hence the title which came to be applied to it, "Tavern of the Seas." In those days Capetown was no more than a small fort, with gardens laid out for the cultivation of fruit and vegetables for the supply of passing ships. The only contact which the servants of the Dutch East Indies Company had with the surrounding country, then inhabited mainly by Hottentots, was in trading in cattle when the natives were peaceful or in warding off attacks when they were not.

With the coming of the settlers—Dutch, German, Huguenot, and finally British—Capetown developed steadily as the metropolis of the colony, its chief port and commercial centre as well as its seat of government. To-day its existence is still based essentially on its harbour and its commerce. It is still the most important port in the country, especially for passenger traffic, though Durban's greater proximity to the industrial centres in the north gives it an advantage in import trade.

The Parliament of the Union meets at Capetown, but it is no longer the seat of government. This curious position is the result of the compromise made in 1910 when the four Colonies, as they were then—Cape, Transvaal, Natal, and Orange Free State—were united in one political entity. Inter-colonial jealousies were too strong to permit of unanimity being reached in the choice of a capital, and Capetown had

perforce to share the honour with Pretoria, 1000 miles away.

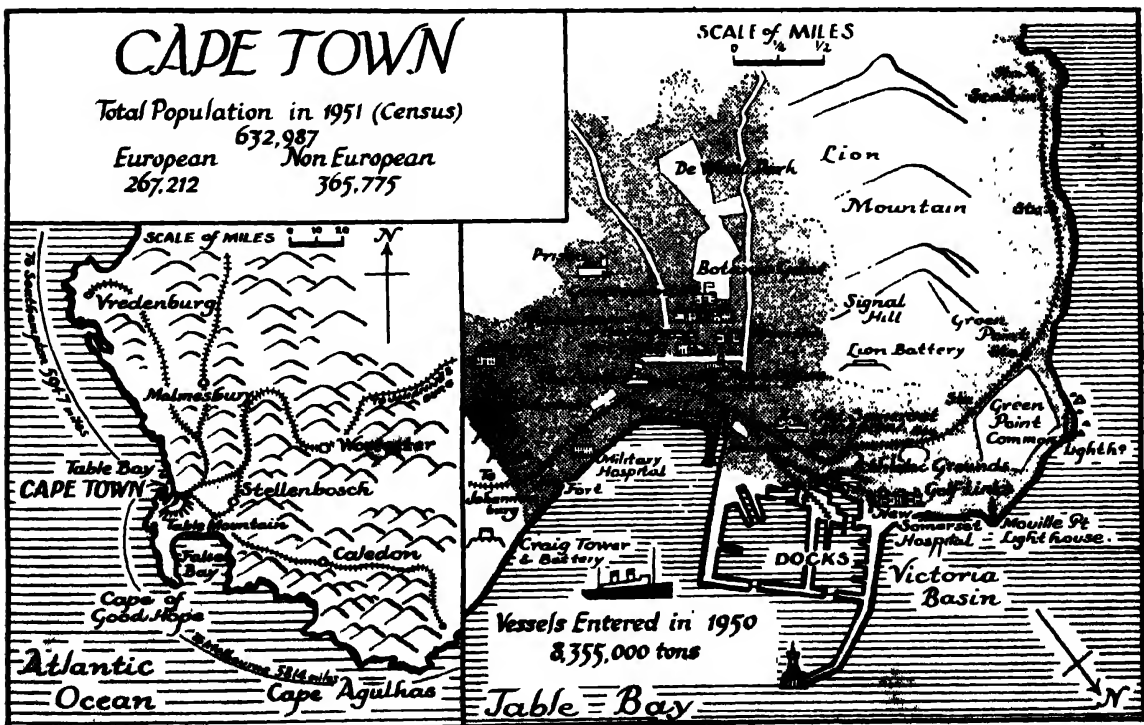
Modern Capetown is a city of 632,987 inhabitants, of whom 267,212 are Europeans. The bulk of the remainder are of mixed blood, known in South Africa as coloured—a distinguishing from the unmixed native—of whom Capetown has no fewer than 290,000. This large coloured population is an historical legacy, dating from the days when slavery was practised by the settlers and miscegenation was more lightly regarded than it is in the South Africa of to-day. Dating also from those days, there is a considerable Malay population which supplies a further picturesque touch to Capetown's racial mixture.

The city fronts Table Bay with Table Mountain towering green and massive in the background and, incidentally, hindering expansion inland. Development has on that account been forced to the flanks, and Greater Capetown to-day stretches far down either side of the peninsula. Seen from Table Bay, the city has a picturesque setting which delights the eye. The business area is clustered at the foot of the mountain which overshadows the whole town, but the white-walled and red-roofed dwellings of the citizens, predominantly in the old Dutch Colonial style, climb the lower slopes of this and neighbouring peaks or stretch out-

wards along the shore on either side, to where in the farther distance are the glistening sands and inviting peaks of the Cape Peninsula, one of South Africa's favourite playgrounds.

Natural obstacles of sea and mountain have always circumscribed the city's planning, but in recent years a bold scheme has been carried into execution which has liberated Capetown from its old physical bondage, doubled its metropolitan area and made its appearance even more imposing. Millions have been spent on the construction of a new harbour, Duncan Dock, covering 290 acres, and at the same time the slopes of Table Mountain have been invaded by groups of charming homes set in groves of pine and other trees.

With its university, Houses of Parliament, art galleries, museums, and botanical gardens, Capetown has all the traditional equipment of a modern European capital. It enjoys a beautiful climate, especially in the summer months (which correspond to the British winter). A fact to be noted is that the rainfall at the Cape is in the winter and not in the summer, as is the case in the Transvaal. In the immediate vicinity of the city, at the back of Table Mountain, lie the vineyards on which are based a wine industry and an export trade in grapes, and a little farther afield are the orchards which, to an increasing extent, supply





GOLD MINING

The mine dumps which overlook the skyscrapers of Johannesburg

Photo South African Railways

the British market with peaches and pears in the winter season.

Pretoria. Styled the Administrative Capital of the Union to distinguish it from Capetown, the Legislative Capital, Pretoria is in the interior, 1000 miles from Capetown and 500 miles from Durban, its nearest port. The city was founded in 1855, and owes its classical name to Andries Pretorius, Commandant-General of the Voortrekkers, the emigrant farmers who trekked away from British rule at the Cape 100 years ago. It has been a capital since 1860, when it was proclaimed the seat of government of the former South African Republic. In those days it was a mere village, embowered amid its rose gardens which are still a proud feature. With the great discovery of gold on the Witwatersrand forty miles away, it grew in size and importance, but its greatest development has taken place since it was created seat of government of the Union in 1910.

The city's long history as the centre of administration has impressed itself on its architecture, and an atmosphere of academic calm pervades it. Here and there are vestiges

which still recall the times when, as headquarters of the Republican Government, Pretoria was the centre of events in the troubled days when President Kruger held sway. During the first Boer War in 1880 it underwent a 100 days' siege, and its occupation by Lord Roberts, in the middle of 1900, was a turning point in the second Boer War. To-day the peace of a united people broods over its quiet hills.

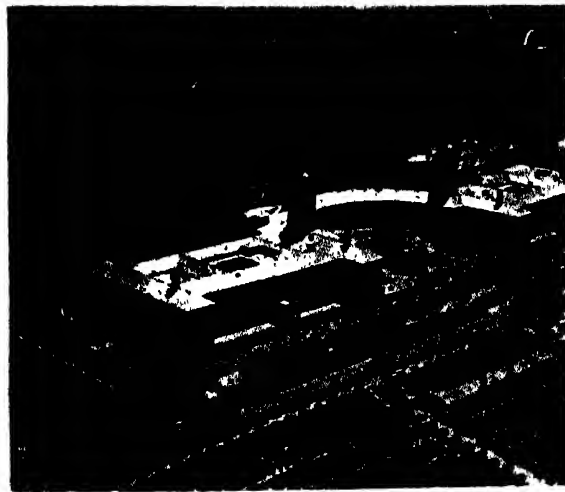
Aesthetically Pretoria is the most satisfying of South Africa's cities. Situated in a valley between two low ranges of hills 4471 feet above sea level, it has been laid out on ambitious lines, and its public buildings are in keeping with its character as the seat of government. Its chief architectural feature is the Union Buildings, erected on the slope of a kopje overlooking the city, with a wide expanse of gardens below. Here the principal Government offices are assembled, though the growing needs of public administration have compelled the erection of other large buildings in the centre of the city. The residence of the Governor-General and the houses of members of the Government stand on the adjoining heights. A handsome

square in the centre of the city is surrounded by important buildings, of which two of the chief are the Raadsaal, headquarters of the former Republican Government and now the home of the Provincial Administration, and the Palace of Justice.

Pretoria's total population is 283,148 of whom 150,657 are Europeans, divided more or less equally between Afrikaans-speaking and English-speaking. In respect of population it is the fourth largest city in the Union. Civil servants and other employees of the Government constitute by far the largest section of the inhabitants. It is, in fact, essentially a Civil Service town, and its only industry of size and importance, outside the railway workshops and the Government printing works, is the iron and steel works established in 1928 on the outskirts of the city.

This is an industry of great and growing importance which is based on the illimitable deposits of iron ore in the public areas set aside by the old Republican Government as "townlands." Upwards of £6,000,000 is paid out annually in salaries and wages, and production is at the rate of 650,000 tons of steel per annum. It is the only plant in South Africa which is producing steel from native ores, and its importance as a key industry is illustrated by the fact that the bulk of the capital has been subscribed by the State. A feature of the new industry is that it is based on European, not on native, labour.

In 1918 the University of South Africa was established at Pretoria, and other institutions which it contains are the National Zoo-



PRETORIA

Aerial view of the Union Government Buildings
Photo: South African Railways



CAPETOWN

Alderley Street, showing some of the most recent office buildings
Photo: South African Railways

logical Gardens, the Royal Mint, two notable museums, and the veterinary laboratories at Onderstepoort which have a world-wide reputation. Near at hand is the Premier Mine, the largest diamond mine in the world, from which came the famous Cullinan diamond which now forms part of the Crown jewels. After the depression of 1930, however, this great mine, which formerly gave employment to thousands of workers, was closed down, but opened again in 1948.

Johannesburg. The largest city in South Africa, and the industrial capital, Johannesburg must be regarded as one of the most remarkable cities in the world. Founded little over half a century ago, it has to-day a population of over 900,000 inhabitants, divided in a 3:2 ratio between black and white. Though only sixty years old, it is not sure about the "Johannes" in whose honour it was named.

It sprang into existence when the great discovery of gold was made on the Witwatersrand (Ridge of White Waters) in 1886. From the rough and ready mining camp it was then, it has developed into a great modern city whose architectural accent is strongly transatlantic. Skyscrapers on the American plan are the feature of its landscape.

Gold is the foundation on which Johannesburg rests. It is the central point on the great

gold reef which extends fifty miles east and west of it. From this amazing goldfield getting on for £3,000,000,000 of gold has already been produced, and production is growing every year. Dotted all around the city, and visible from its main streets, are the vast glistening dumps which contain the refuse of the industry, marking mines which have become exhausted or others which are still at the height of their production. The city itself stands 5765 feet above sea-level, and covers an area of eighty-three square miles, while almost linked with it nowadays—for they, too, are growing—is a



PORT ELIZABETH

A city rising in importance both as an industrial centre and as a port
Photo South African Railways

chain of satellite towns—Germiston, Benoni, Boksburg, Brakpan, Springs, Krugersdorp, and others—which also depend for their existence on the welfare of the mining industry.

It was the discovery of gold on the Rand which transformed the character of the Transvaal from a pastoral country, with a seventeenth-century economy, to the highly industrialized centre it is to-day. It was also the conflict between the two civilizations which produced the grim struggle that ended in the disappearance of the Republican régime. In those days, and since, Johannesburg was the storm centre. This gave it a reputation for volatility which marked it out from all other South African cities. After fifty years, however, it has sobered down.

Thanks to the higher price which gold has been fetching in South African currency since the country abandoned the gold standard, the outlook for the mining industry has been transformed, because millions of tons of low-grade ore, hitherto useless, may now be exploited at a profit. The "life" of every mine has thereby

been doubled, and the development of the industry has proceeded at a remarkable pace. It is now employing 20,000 more workers than it did a few years ago, and its demands for stores and supplies of every kind, as well as its spending power, have proportionately increased. Johannesburg's expansion upwards and outwards is the result. Its industrial and commercial structure has broadened in all directions.

Municipally Johannesburg is a progressive city with many enviable amenities. Like Cape-town and Pretoria, it has a university of its own. Those who admire the skyscraper will find in some of the great new buildings housing public corporations or mining companies good specimens of architectural modernism. Another development in recent times has been the multiplication of flat-dwellers, housed in tenements and in a style which mark a still further departure from the old days of the mining camp. A mile or a mile and a half below them gold is being quarried ceaselessly day and night, and of this Johannesburg gets periodical reminders when a tremor shakes the city as old workings settle down in exhausted cavities.

Durban. The third largest city in the Union, Durban is one of its principal ports. A British settlement was established there in 1835 and named in honour of Sir Benjamin D'Urban, Governor of Cape Colony, but the early settlers had to cope with Dingaan, the Zulu king, and the Boer Voortrekkers before British rule was accepted.

Modern Durban is a thriving community of 419,607 inhabitants, of whom 129,633 are Europeans and 131,283 natives. There is a large Indian population (143,759), descendants of the coolie labour imported in the nineteenth century to work in the sugar fields, and now constituting one of South Africa's racial perplexities.

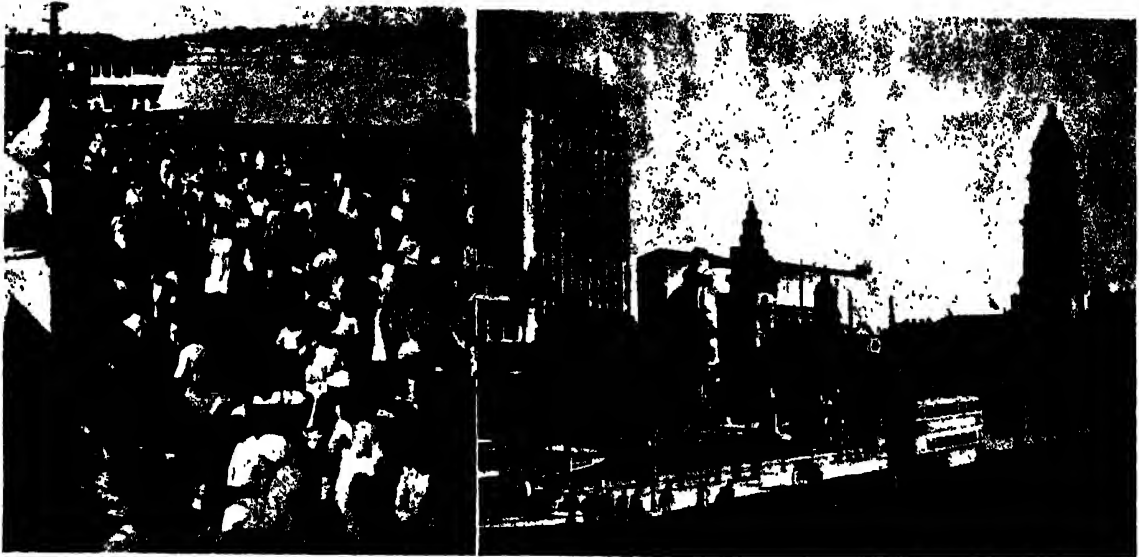
Durban is a well-laid-out city with two separate existences, as a port and industrial centre and as a pleasure resort. Its beach is the most popular in the country, and it is a favourite resort for holidaymakers, especially from the Transvaal and notably in the winter season.

The sugar and coal industries of Natal, which are among the most important in the country, make it the natural centre for export, and it has also a large import trade, as it serves the great industrial centres of the Transvaal. Its European population is mainly English-speaking, which distinguishes it from the majority of the other large towns.

Bloemfontein. The capital of the Orange Free State, Bloemfontein was founded by the Boers in 1848. It is situated on a plateau 5000 feet above sea-level, and has a population of 127,775 of whom 51,652 are Europeans, the rest natives. It has the character of a quiet country town in the centre of an agricultural district, but it derives importance from the fact that, in the compromise which was made at the time of Union, it was selected for the honour of Judicial Capital. It is in consequence of this fact that the Appellate Division of the Supreme

trial development, Kimberley is in the Cape Province near the border of the Orange Free State. It was the former capital of Griqualand West.

It owes its name to the Earl of Kimberley, who was Colonial Secretary at the time the town was founded. Here Cecil Rhodes laid the foundations of his great fortune, and here also other pioneers gathered wealth which later on was used in the exploitation of the Witwatersrand goldfield. The old diamond mine in which these fortunes were made now stands



DURBAN

Left A section of the Indian Market *Right*. One of the fine streets in the heart of the City
Photos: South African Railways

Court holds its sittings there. It is also the headquarters of the Provincial Administration, and has a series of stylish public buildings.

Pietermaritzburg. The capital of Natal is a city of 74,399 inhabitants, of whom only 32,110 are Europeans. It was founded by the Voortrekkers in 1838, as their capital, and named in honour of their two leaders, Piet Retief and Gert Maritz. It is one of the most beautifully situated of South African towns, ringed round with high hills richly forested. It is about fifty-six miles from Durban, and, though its importance has suffered since it was the capital of an independent colony, it is still the seat of the Provincial Government. It has no large industries, but is the commercial centre for northern Natal.

Kimberley. One of the best-known of South African towns by reason of its famous diamond mines, whose discovery in 1871 marked the beginning of South Africa's indus-

derelict, a great open hole, which is one of the sights of South Africa. Diamonds are still being mined on a large scale at Kimberley, but the fortunes of the industry are of a fluctuating character, depending, as they do so much, on conditions in the world at large; and with the discovery of other diamond fields in other parts of the world much of Kimberley's earlier glory has now departed.

Port Elizabeth. A smaller city of rising importance both as a port and as an industrial centre, Port Elizabeth is the centre of a considerable agricultural district, producing wool and mohair, and in more recent times it has established itself as an industrial centre. Here are two of the few motor-car plants in the country as well as a growing shoemaking industry. Its population is 215,416, of whom 83,181 are Europeans. At its beach at Hume-wood it has all the amenities of an up-to-date holiday centre.

East London. A neighbouring port to Port Elizabeth, East London has also a large trade in wool, and it is the only river port in the country. Its population is 90,110, of whom half are Europeans. It, too, has progressed in

popularity as a holiday centre, but its economic advance has been relatively slow. East London is the gateway to the exclusively native area of the Transkei, where the tribes enjoy a notably successful measure of Home Rule.

Natural Resources, Industries and Trade

THE overseas trade of South Africa which, in 1910, the year of establishment of the Union, amounted to only £90,334,707, increased to over £200,000,000 per annum during the years preceding the 1939-45 War, while in 1950 it was as high as £536,116,512. Much of this trade is with the United Kingdom, which is the chief market for the Union's perishable products and which takes about 20 per cent of her non-perishable goods.

The most important commodities exported by South Africa, with their values, are given in the list below (1950 figures). Gold exports are excluded.

GOODS EXPORTED	£
Wool	61,855,471
Diamonds	20,135,296
Hides and skins	9,261,767
Footwear	1,239,923
Coal (cargo)	4,637,095
Wattle bark and extract	4,362,826
Fresh fruit	6,884,866
Copper	5,469,519
Asbestos	5,093,346
Tyres and tubes	2,948,870

Other exports from South Africa include sugar, maize, tobacco, wines, eggs, machinery, chrome, platinum and manganese. Apart from gold—the latter being particularly in demand during days of political and social disturbance—the merchandise which South Africa supplied to the British Commonwealth and certain other countries was valued at the figures shown in the table below for 1950—

EXPORTS TO BRITISH COMMONWEALTH			EXPORTS TO FOREIGN COUNTRIES		
Country of Destination	Value £'000	% of Total Exports	Country of Destination	Value £'000	% of Total Exports
United Kingdom	59,981	26.4	France	27,124	12.1
S. Rhodesia	16,478	7.4	U.S.A.	18,836	8.4
N. Rhodesia and S.W. Africa	13,891	6.2	Switzerland	11,425	5.1
Australia	2,903	1.3	Italy	9,879	4.4
Kenya	1,670	0.8	Germany	9,550	4.3
India & Pakistan	1,377	0.6	Netherlands	8,660	4.0
Other British	8,801	4.0	Other Foreign	39,761	15.0
Total British	105,101	46.7	Total Foreign	119,333	33.3

Grand Total of British and Foreign and Ships' Stores (including bunker coal) valued at £228,740,043

What South Africa Buys. Goods bought by South Africa from other countries were valued in 1935 at £75,000,000 and in 1950 the value rose to over £307,000,000. In that year she bought from the United Kingdom some £126,400,000 worth of goods, representing 41.2 per cent of her total imports, a figure which is roughly equal to the pre-war level. South Africa is to-day the second largest market for the manufacturers of Great Britain, after Australia. In 1948 the Union of South Africa gained the fifteenth position in order of importance in world trade.

The values of merchandise bought by South Africa from the British Commonwealth and other countries in 1950 are shown in the table below—

IMPORTS FROM BRITISH COMMONWEALTH			IMPORTS FROM FOREIGN COUNTRIES		
Country of Origin	Value £'000	% of Total Imports	Country of Origin	Value £'000	% of Total Imports
United Kingdom	126,446	41.2	U.S.A.	40,231	16.0
Canada	12,893	4.2	Peru	11,147	3.6
Malaya	5,186	1.7	Japan	8,423	3.7
S. Rhodesia	4,681	1.5	Germany	6,874	2.8
Ceylon	4,427	1.4	Sweden	6,459	2.1
Australia	2,417	0.8	Belgian Congo	6,214	2.0
Other British	18,150	5.9	Italy	6,180	2.0
Total British	174,200	56.3	Total Foreign	133,153	43.3

Grand Total of British and Foreign Imports valued at £307,376,459

Mining and Natural Resources. The fact that when one considers the Union of South Africa in terms of industry one ordinarily thinks of mining, and particularly of gold mining, is evidence that the exploitation of the mineral resources of the country is still, apart from agriculture, the biggest industry, employing thousands of workers, both native and European. South Africa is the world's premier producer of gold.

Although the history of mining in the Union is mainly a record of the exploitation of the gold and diamond deposits, the country is well

supplied with other economic minerals which are being exploited. Coal was developed in the first place to meet the needs of the gold and diamond mines, and the more recent birth of the iron industry can be attributed to the same cause. The finding and exploitation of all other mineral deposits were greatly aided by the capital and technical skill made available by the two major industries; moreover, these industries have been responsible in large measure for the growth of agriculture, for the

production was from the alluvial fields, but the progressive reduction of output, the sale of accumulated stocks and the increased demand for diamonds later rendered possible a resumption of mining. During the period 1936-1950, the production of alluvial diamonds amounted to one quarter of the total number of carats of diamonds obtained from mines, but the value of the alluvial diamonds was only one twenty-fifth of the value of diamonds from the mines.

The bulk of the production is consigned to



MINING IN SOUTH AFRICA

Left The Premier Diamond Mine near Pretoria, from which the largest white diamond ever known was taken, with a weight of more than 302 carats. Right The cyanide tanks of a Rand gold mine in the Transvaal

Photos South African Railways

construction of many important railway lines and for the development of manufactures.

Diamonds. The first important discovery of diamonds was made in 1870, and official records show that from 1883 to 1950 nearly 175,000,000 metric carats (34½ tons) were produced, valued at nearly £395,000,000. The stones are found in volcanic pipes and fissures, and in coastal as well as inland gravels and alluvial beds of different ages. The chief pipes mined have been those at Kimberley in Cape Province, Jagersfontein and Koffiefontein in the Orange Free State, and the Premier, near Pretoria, in the Transvaal. This last mine closed down in 1932 but re-opened and production started again in 1948.

During the depression in world trade before the last war, diamond mining was almost at a standstill and almost the whole of South Africa's

London, though most of the cutting and polishing is done in Holland and Belgium. There has also been a cutting industry in South Africa for some considerable time, but only 600 are employed in the South African industry at its fullest, while 15,000 cutters are employed on the continent of Europe.

During 1950 the Union's production of diamonds amounted to 1,732,000 metric carats, compared with 623,923 metric carats in 1936, valued at £9,145,407 in 1950 and £2,125,216 in 1936. The number of persons employed on diamond mines in the past decade averages 20,000, of whom 17,500 are natives. For the period of their contracts, which are of limited duration, natives and coloured persons who work on the mines are confined to compounds, a system which ensures the employers against thefts. The alluvial diggings provide relief

work for "poor whites," but conditions are bad and the diggings are regarded as a detriment to South Africa.

Industrial diamonds form 80 per cent of the



THRIVING INDUSTRY

1. A brick and pottery works at Vereeniging. 2. A power station at Colenso, Natal. 3. A grain elevator at Capetown

Photos: South African Railways

world's diamond production by weight and 20 per cent of the value. They are of increasing importance and the United States of America uses 12 million carats of industrial diamonds yearly.

Gold. The Union of South Africa produces getting on for one-half of the world's total output of gold. Of the domestic production more than 90 per cent is obtained from the famous Witwatersrand goldfield in the Transvaal, and in 1945 this state actually produced 46 per cent of the total gold production of the world. Up to the end of 1950 the Rand goldfield had produced 477,535,000 oz., as compared with the Union's total output of about 495,500,000 oz.

The Witwatersrand goldfield stretches from Randfontein eastward for about sixty miles to the vicinity of the Springs. Shafts follow the reef to depths exceeding 9000 feet, so that, with Johannesburg built at an altitude of 6000 feet, work in some of the mines is actually carried on below sea-level or, put somewhat differently, a mile and a half below the earth's surface, the deepest level to which man has ever delved.

Gold occurs very finely divided in quartz-conglomerates or "banket," and is frequently associated with appreciable quantities of pyrite. The strata of the Rand have been deposited by water immediately on the underlying bedrock of granite, probably over the bed of a river mouth of deltaic form a hundred miles wide. Beds of sand and clay of unknown geological age are interleaved among the conglomerate layers, composed of water-worn pebbles in a cement impregnated with gold and iron.

Although the output of Transvaal gold, stimulated as it has been by an enormous world demand, has increased over many years, the resources of the Rand are limited. Geophysical prospecting and drilling have disclosed the existence of further payable ore-bodies and during the last decade new mines have been opened up, especially in the Far East and Far West Rand. Yet the ore is of very low grade and its mining and refining depend largely on the current very high price of gold in the world's market. Ore containing as little as 2.5 dwt. per long ton has been worked because of these high prices, and this has resulted in bringing millions of tons of ore, hitherto classified as unpayable, into the payable ore reserves, consequently prolonging the lives of a number of mines which in the early 1930's were nearing their end. Thus the tonnage of ore treated by the large mines in the Transvaal has increased, though the average grade of ore treated at these mines has decreased, so that, while the value of output for the Union has increased, the actual amount of gold recovered in 1950 was 11,063,713 fine oz., not so very much more

than the maximum pre-war figure of 11,500,000 oz. in 1932.

The Transvaal areas of gold production are the Witwatersrand, Heidelberg, Klerksdorp, Ottoshoop (Lichtenburg), Pretoria, Barberton, Pilgrim's Rest, and Pietersburg. Small quantities of gold are also produced in the Orange Free State, Natal and Cape Province.

Gold has certainly been exported from South Africa for many centuries, though it was not until 1886, the year of foundation of Johannesburg, that a portion of the Rand was officially proclaimed a goldfield. Reef mining

In addition to free housing, food and medical attention, native labourers on the Witwatersrand goldfields receive on an average 3s. 1.4d. per shift. The other services mentioned cost the companies about 1s. 10d. per man per shift. Hours of work vary from mine to mine and in different occupations, but in no case do these exceed forty-eight hours per week.

Coal. The enormous output of gold is related to the favourable proximity of abundant coal and water. Coal mining in the Transvaal began seriously after the discovery of gold on the Rand and the main fuel supplies came, as



DURBAN HARBOUR AND SEAFRONT

This is the third largest city and one of the principal ports of the Union

Photo South African Railways

started in the Transvaal in 1872. Alluvial gold forms an infinitesimal portion of the whole.

Technical conditions invest South African gold-mining shares with an element of reliability unparalleled by those of mines in other areas. There is no gold-bearing formation elsewhere in the world comparable, in the matter of size, regularity and predictability, with the Rand. In that area geological conditions, especially in certain sections, are such that, when development has reached a given stage, the life and yield of many mines, for any given price of gold, are ascertainable with a greater degree of precision than are the future financial results of the majority of commercial undertakings.

The Rand refinery near Germiston, which is the largest of its kind in the world, refines nearly one half of the world's output of gold.

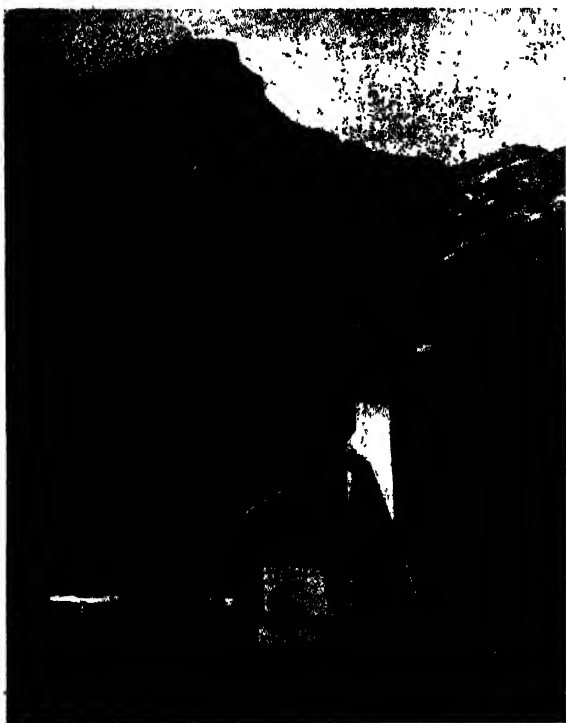
People employed in gold mining and allied concerns in 1950 numbered 325,680, of whom 285,988 were natives and 39,692 were Europeans. The natives employed on the Witwatersrand goldfields are housed in compounds and fed at the expense of the mining companies.

they still do, from Witbank field. Here to the north east of Johannesburg, the seams are fairly thick and lie conveniently close to the surface. The Witbank field produces about 40 per cent of the Union's output of coal. The annual output of Transvaal coal has risen for many years and exceeded 20 million tons for the first time in 1950.

The best quality coal is found in Natal, then comes the Transvaal, Orange Free State and Cape. All fields are in the interior, none near the coast, so that the price to the consumer is largely made up of railage charges. In 1950 the quantity and the value of coal produced in the Union was 29.7 million tons and £14,800,000. Coal exported in 1950 amounted to 2,528,600 tons. Coal is marketed and distributed by private enterprise. Coke production is centred in Utrecht, Vryheid, and Paulpietersburg in Natal and tar is produced at Pretoria.

There are at present about 51,200 employees in the coal industry, of whom 6 per cent are Europeans. In South African collieries the European miner is in the position of a supervisor,

having usually from 50 to 100 natives employed under him. He does little manual work beyond conducting blasting operations and examining the places before the natives enter and start work. Natives do all the manual work. In Natal Indians are employed as well as natives, and are efficient in supervising stationary engines, running coal cutters, setting



AN OLD BRANDY STILL

A brandy still lying disused in the Hex River Valley

Photo: South African Railways

timber and pipe and track laying. The hours of work are normally forty-eight per week.

Iron. The knowledge that the general poor quality of the South African soil and the frequent occurrences of droughts and pests severely limited the opportunity for intensive agriculture, and also the ever-present feeling of anxiety in regard to the life of the gold mines—it was estimated before the increase in the price of gold that the production of gold would probably fall by one-third in fifteen years, a problem that has since been postponed—forced upon the people of South Africa the necessity to encourage more diversified production. The prime necessity for the advancement of this object was the establishment of an iron and steel industry, particularly since the raw materials were available.

The Union possesses large resources of high-

grade iron ore and much greater reserves of medium-grade ore, the most important deposits being situated in the Transvaal. The resources are, it is estimated, only exceeded by those of the United States of America, France, Brazil, and India, being estimated in 1928 as approximately 6,000,000,000 tons. In 1928 the Government of South Africa passed an Act under which the South African Iron and Steel Industrial Corporation Ltd. was constituted, for which the Government was left to find the capital. The various sections of the Corporation, commonly called Iscor, came in turn into operation between 1933 and 1935. The result was the construction of a comprehensive and modern steelworks at Pretoria.

In 1950 Iscor produced 707,000 tons of steel ingots as well as many by-products.

Copper. Up to 1916 Namaqualand was the most productive area for copper, but since 1932 the output from this source has ceased. Present production is being derived mainly from Messina, in the northern Transvaal. Up to the end of 1950 copper to the value of more than £54,000,000 had been produced.

Asbestos. The asbestos resources of the Union, which include chrysolite, crocidolite (blue asbestos) and amosite, are considerable. They are located mainly at the Barberton, Carolina, Prieska, Hay, Barkly West, Kuruman, Lydenburg and Pietersburg districts, the last two mentioned being rich in amosite, which is found in commercial quantities only in the Union of South Africa, is cheap to produce and of which there are large reserves.

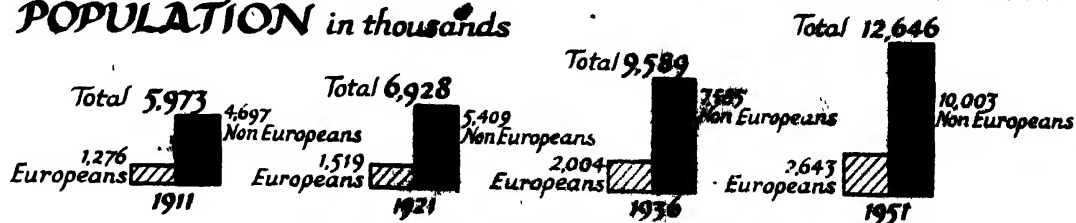
Platinum. Payable deposits of osmiridium containing platinum occur in the vicinity of Potgietersrust and Rustenburg. When the price of platinum fell to £7 per oz. in 1930, all the mines except one closed down. By 1950 the price had recovered to £23 per oz., however, and production is increasing.

Chrome Ore. Obtained mostly from Rustenburg in the Transvaal, chrome ore is exported chiefly for the manufacture of refractories and bichromates. The output in 1950 was 223,000 tons.

Tin. Tin mining has been carried on more or less continuously during the past fifty years and the total value of ore produced up to the end of 1950 was approaching £10,000,000. Tin occurs chiefly in lodes but also in secondary deposits in all four provinces of the Union, the most important deposits being situated in the Transvaal, where there are three producing mines near Warmbaths and Potgietersrust.

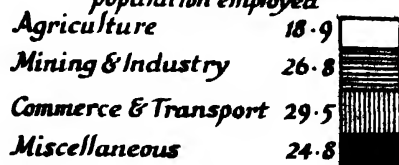
UNION of SOUTH AFRICA

POPULATION in thousands



Occupational Distribution

In percentages of European population employed



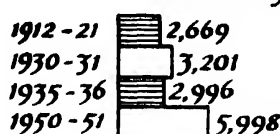
In percentages of Non European population employed



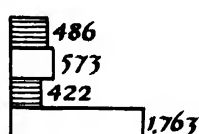
PRODUCTION

MAIZE

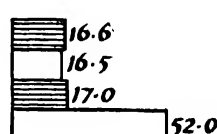
in millions of lbs



WHEAT

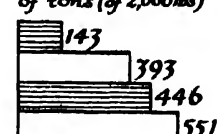


TOBACCO



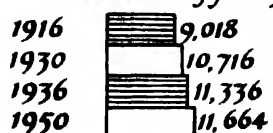
Cane Sugar

in thousands of tons (of 2,000 lbs)



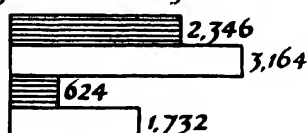
GOLD

in thousands of fine oz.



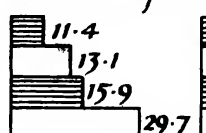
DIAMONDS

in thousands of carats



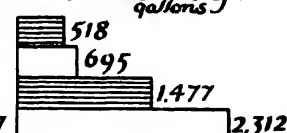
COAL

in millions of tons



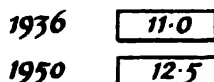
Exports of Wine

in thousands of gallons

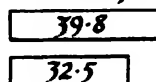


Numbers of LIVESTOCK in millions

Cattle



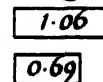
Sheep



Goats



Pigs



Principal Exports

(excluding gold bullion)



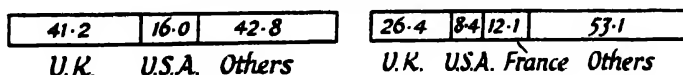
Total
£228.7 millions

IMPORTS

Total
in £ million
307.4

FOREIGN TRADE by Countries

in percentages of 1950 totals



EXPORTS

Total
in £ million
228.7

Manganese. Although manganese ores have been located at various points in the Union, the only deposits of major importance are those north of Postmasburg in Griqualand West. Production since the last war has increased substantially and in 1950 was 316,000 tons.

Corundum. Natural corundum has, during the past forty years, been produced mainly from deposits covering an area of more than 3000 square miles in the northern and north-eastern Transvaal, the mineral being won by a large number of small workers from reefs. The product is chiefly marketed as crude crystal corundum and the abrasive qualities of the material are very good. In fact, after the diamond, corundum is the next hardest natural mineral known to exist.

Other Minerals. Other minerals produced or found in the Union in commercial quantities include silver, iron pyrites, natural soda, gypsum, magnesite, fluorspar, nickel, lead, zinc, bismuth, talc, graphite, china clay, mica, and marble.

Secondary Industries. The rapid development of the mining industries of the country gave the necessary impetus to, and provided the markets for, the secondary industries, which after the first World War assumed ever-increasing importance. The number of factories increased from 3998 in 1916 to over 14,000 in 1950. The advance of secondary industries has been aided, since the formation in 1922-23 of the Electricity Supply Commission and the Electricity Control Board, by electric power which can be obtained for industrial purposes at rates as low as anywhere in the world.

One of the earliest advances occurred in the clothing trades—in retail tailoring, dress-making and millinery, and also in the boot and shoe industry. Diamond cutting was introduced in 1927, and the manufacture of rubber tyres in 1933. The great increase in the use of motor cars and the establishment of motor vehicle assembling works have introduced valuable new industries. More recently there have been spectacular developments in engineering, foodstuffs and textiles, as well as a boom in building. The establishment of a synthetic oil industry, the execution of a big oil refinery near Durban, the exploitation of phosphate deposits in north-eastern Transvaal, and the opening of uranium plants are also notable achievements.

Location of Industries. Industry in South Africa is located in four principal areas: (1)

The southern Transvaal, which is composed of the Witwatersrand, Pretoria, and Vereeniging, (2) The Cape Western, which includes the Cape Peninsula, Bellville, Paarl, Stellenbosch, Somerset West, Malmesbury and Wellington, (3) Port Elizabeth, and (4) Durban and Pinetown.

Almost two-thirds of the metal industries are located in the Transvaal. Sugar-milling and refining is carried out in Natal. The tobacco industry is centred chiefly in the Cape. In wheat-milling the Cape predominates, but in maize-milling the Transvaal. In jam and sweets manufacturing the Cape again predominates as it also does in crawfish and fish preserving. Electricity production and the building and textile trades are most active in the Transvaal. Most printing is done in the Cape. The chemical trades are evenly divided between the Cape, Natal, and the Transvaal. Stone and clay work predominates in the Transvaal, but the vehicle trades and the leather trades are found chiefly at Port Elizabeth. Furniture making is carried on equally in the Cape and the Transvaal.

The Industrial People. Persons employed in privately-owned factories in the Union in 1950 numbered 227,788 Europeans and 440,577 natives and other non-Europeans. Regulation of wages and other conditions of employment are embodied in a complete code of industrial laws. Special provision is made for European unskilled and semi-skilled workers in order to protect them against the competition of "uncivilized" or native standards.

It is generally admitted that the prosperity of South African trade and industry depends to a very great extent on an adequate supply of cheap, unskilled, native labour, and throughout the four provinces natives constitute the chief labour force in agriculture, trade, and industry.

The proportion of European women employed in industry in South Africa has increased considerably. In the past thirty years the percentage of females to total Europeans employed has risen from 11.6 to nearly 25 per cent owing to the fact that those trades in which women usually find employment have increased more rapidly than others.

With the natural resources, mining experience and the cheap labour forces at her disposal, South Africa is likely to see a further expansion in secondary industry, particularly since there is taking place a very definite increase in the efficiency of production.

THE ISLANDS OF THE ATLANTIC



MADEIRA

Left: Mountain scenery. Right: Street scene showing the familiar ox-drawn sledge.

Photos: P. & O. Steam Navigation Company

THE islands dealt with in this section are the Azores, Madeira and the Cape Verde Islands, all of them Portuguese; the Canary Islands, including Tenerife, which are Spanish; and St. Helena, Ascension and Tristan da Cunha, which are British possessions.

Of the Portuguese territories, the Azores and Madeira are both considered, for administrative purposes, as parts of the home country itself, the Azores constituting three, and Madeira one, of the provinces of Portugal: the Cape Verde Islands, on the other hand, are an overseas province in the proper sense of the term, administered by a Governor.

The Azores. The Azores or Western Islands lie in the North Atlantic. The group consists of St. Maria, St. Miguel, Terceira, Graciosa, São Jorge, Pico, Fayal, Flores and Forvo. Their total area is 992 square miles, and their population some 285,000. The density of population is relatively high.

The coasts of the islands are rugged and steep, and the inland mountains are often of great height: the highest, on Pico, rises to 7610 feet. The valleys are fertile, and produce excellent wines, grains, bananas, oranges,

apricots, pineapples and tobacco. These make up the chief exports.

Angra, on the island of Terceira, is the capital of the group, though St. Miguel (297 square miles) is the largest of the islands. Ponta Delgada, on the latter, is an important port of call for steamers on the more southerly routes of the North Atlantic. Ribeira Grande on St. Miguel and Horta on Fayal are both important centres, and Santa Cruz de Graciosa and Guadalupe on Graciosa are noted for their beautiful scenery. The chief towns of São Jorge are Ribeira Seca and Velas.

Madeira. Madeira is the largest of a number of islands which together constitute a province of Portugal. The province has a population of 249,771, and an area of 314 square miles. The density of population, 795 inhabitants to the square mile, is exceedingly high, and testifies to the past and present prosperity of the island.

The first permanent settlements were made after the discovery of the island by the navigator Zarco in 1419. The sugar cane was introduced very soon after—the first sugar mill dates back to 1432—and sugar rapidly became Madeira's leading industry, completely dominating the

island's economy in the fifteenth and sixteenth centuries. Funchal, the capital, created a city in 1508, has five sugar loaves as its city arms. In the seventeenth century the reign of sugar was brought to an end by the growth of the Madeira wine industry. In 1800 the island exported, mainly to England, nearly 17,000 pipes of the wine. But, with the growing taste for French clarets, consumption gradually dropped off, and the industry, already attacked in the 1850's by the appearance of the fungus *oidium tuckerm.*, was almost destroyed after 1873 by *phylloxera*. The decline of viticulture led to renewed development of the sugar industry, which, to-day protected by high tariffs, has again become of great importance. Wine-growing, now that the ravages of the *phylloxera* have been brought to some extent under control, is also attaining a better state.

Agricultural production on Madeira benefits from the great fertility of the volcanic soil, though it is almost entirely dependent on irrigation. Long aqueducts carry the water all over the cultivated areas. The system of land tenure, the *Bemfeitoria* system, is a peculiar one, under which the ownership of the land is shared by two parties—the *Senhorio*, the owner of the soil and provider of water, and the *Colono*, who works the land and divides his crop with the landlord. The *Colono* has considerable legal rights, and cannot be ejected from his holding without proper compensation.

Madeira is mountainous and well wooded. Pico Ruiva, the highest mountain, rises to 6059 feet. The soil is loose, and continuous

denudation has produced a picturesque natural background, in which precipitous ravines and narrow gorges break up and divide the hilly wooded slopes. The roads, set with innumerable tiny cobbles, are carried over steep gradients, and the *carros* or ox-drawn sledges, which are a common form of transport on the island, toil up them, or slip down them, carrying the produce of the interior to the port and capital of Funchal.

Funchal is impressively situated in a great amphitheatre opening towards the sea, and behind it the tree-covered hills climb steeply to the sky. Its population is 39,558; and it contains many fine buildings, of which the Palace of São Lourenço (sixteenth century) and the Cathedral (1485–1514), in decorated colonial style, are among the most noteworthy. To-day the town is also an important fuelling station for ships bound for South American ports.

Cape Verde Islands. The Portuguese province of Cape Verde consists of eleven large and four smaller islands. These are divided into two groups: the Barlavento or Windward Islands and the Sotavento or Leeward Islands. In the Barlavento group are São Vicente, Santo Antão, São Nicolau, Santa Luzia, Sal, Boa Vista, and the smaller Branco and Raso. The Sotavento group includes Sant'Iago, Maio, Fogo and Brava, and the smaller islands Rei and Rombo. The total area of the islands is about 1560 square miles, and the population of some 147,000 includes 3000 Europeans. Praia is the capital and seat of the Portuguese Governor. The principal products are sisal,



THE CANARY ISLANDS

Left: Loading bananas after the harvest. Right: National monument of Las Palmas

Photos: Union-Castle Line; Orient Line



TENERIFE

1. A street in Santa Cruz. 2. Scenery in the interior. 3. The harbour at Las Palmas

Photos: Union-Castle Line, Orient Line

castor oil, mustard, brandy, maize, manioc, tobacco and cane sugar. A certain quantity of coffee is exported.

Canary Islands. The Spanish Canary Islands, like some of the Portuguese possessions described above, are treated, not as colonies, but as integral parts of the home country itself. The two provinces, Las Palmas and Santa Cruz de Tenerife, divide the islands between them. The former includes Gran Canaria, Lanzarote and Fuerteventura; the latter the islands of Tenerife, Palma, Gomera and Hierro. Together they have an area of 2807 square miles and a population of about 790,000. In the provincial capitals, Las Palmas and Santa Cruz, the islands possess two magnificent oceanic harbours. In Las Palmas (153,000) the outspread

panorama of the city is dominated by the sombre Catedral de Santa Ana, an enormous structure commenced in 1497. Santa Cruz (103,000) is less "self-centred" and is dominated by the majestic Peak of Tenerife. Beyond the hills the flanks of the mountain rise gently towards the sharply jutting Peak, which reaches a height of 12,152 feet. The mountain is for the most part snow-covered, and the view of the Peak itself, with the serrated treetops silhouetted against the white mountain side, is one of surpassing beauty.

In the nineteenth century the prosperity of the islands was based on cochineal—first brought there in 1826—but the industry to-day no more than lingers in the Canary Islands, having been almost extinguished by the



ST. HELENA
Jamestown built in a narrow valley between high cliffs
Photo Blue Star Line

competition of aniline dyes. The cochineal boom, although short-lived, materially assisted in the development of the country, for much land was then brought under cultivation which is now planted with the great crop of the Canary Islands—bananas. The fruit trade even occupies so much of the cultivable area that cereal crops have been squeezed out, and three quarters of the islands' food supplies have to be imported. Another important industry is the manufacture of cigars and cigarettes, for which Havana seed is used. Tomatoes, oranges, pineapples, figs and grapes are also grown and exported.

St. Helena, Tristan da Cunha and Ascension. St. Helena, Ascension and the Tristan da Cunha group, all lie in the east Atlantic, south of the Equator. The largest, St. Helena, has an area of only forty-seven square miles. Ascension, with thirty-four square miles, is only a little smaller; and Tristan da Cunha, almost a perfect hexagon in shape, and not measuring much more than two miles across in any direction, is by far the smallest. The other members of the Tristan da Cunha group are Nightingale, Inaccessible and Gough Islands.

All are volcanic islands. The loneliest and most inhospitable of them, Tristan da Cunha, rises abruptly from the sea, and reaches, at its peak, a height of 8000 feet. Its population, lately recorded as 267, forms a patriarchal society, and the people govern themselves in

accordance with a simple tradition. They are a queer race, descended from soldiers of the British garrison which was introduced at the time of Napoleon's captivity on St. Helena. Their staple diet is potatoes, and it is a curious fact that the adoption of this diet was a consequence of the proverbial tendency of rats to desert sinking ships—for rats first made their appearance on the islands after a shipwreck in 1882, since that date so multiplying that their ravages make the growing of corn almost impossible.

Ascension Island, an important cable station 700 miles north-west of St. Helena, is a barren volcanic rock with no streams and no trees. The last recorded population was 176

inhabitants, most of whom are located at Fort Thornton, the settlement nearest the anchorage on the leeward side of the island. Green Mountain, the highest point, reaches 3000 feet. Until 1922 Ascension, though an island, was officially regarded as a man-of-war, and was governed by a naval officer responsible to the Admiralty. The island now forms part of the colony of St. Helena, and jurisdiction over it is exercised by the Colonial Office.

The British Colony of St. Helena has a population of 4748, of whom about 150 are British and the remainder St. Helenians. Occupation began in the 1650's, when the East India Company established a victualling station there for their ships. The island rises steeply from the sea, and the greater part of the land is more than 1500 feet above sea-level.

St. Helena lies in the Tropics, and its climate is mild and healthy. Of the total area—30,000 acres—only 8600 are cultivable, the rest being barren. The principal crop raised is New Zealand hemp, cultivated over 3250 acres. The remaining agricultural land, which includes forest land, is insufficient to produce the food needed by the colonists. Home-grown potatoes, oats and maize have to be supplemented by imports of flour and rice. The latter is the staple food of the people. The principal settlement and capital of the colony is Jamestown. The population of the island is of mixed European, African and East Indian descent, partly derived from freed slaves.

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